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# FLIGHT 201 HAS BEEN MOVED TO GATE 102:

## Challenges Experienced by Travelers with Cognitive or Emotional Disabilities

## Final Report

June 1990

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**Transportation Development Centre**
**Policy and Coordination Group**
**Transport Canada**

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Transport Canada / Transports Canada

451812

DDN 446601

91-02507/

The content of this report reflects the views of the authors and not necessarily the official views or opinions of the Transportation Development Centre of Transport Canada.

Ce document est également disponible en français: Le vol numéro 201 s'est déplacé à la porte 102: Problématique du transport des personnes ayant des difficultés d'ordre cognitif ou émotionnel, TP 10450F

Transport Canada Transports Canada

# PUBLICATION DATA FORM

| | | |
|---|---|---|
| 1. Transport Canada Publication No.<br>TP 10450E | 2. Project No.<br>7176 | 3. Recipient's Catalogue No. |

4. Title and Subtitle

Flight 201 Has Been Moved to Gate 102: Challenges Experienced by Travellers with Cognitive or Emotional Disabilities

5. Publication Date

June 1990

6. Performing Organization Document No.

—

7. Author(s)

Paul McInerney, Shari Stein, Ben Barkow, Sandor Wiseman

8. Transport Canada File No.

D 1450-103-95

9. Performing Organization Name and Address

Behavioural Team, A Corporation
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10. DSS File No.

16SD.T8200-8-8538-A

11. DSS or Transport Canada Contract No.

—

12. Sponsoring Agency Name and Address

Transportation Development Centre (TDC)
Guy Favreau Complex
200 René Lévesque Blvd. West
West Tower, Suite 601
Montreal, Quebec H2Z 1X4

13. Type of Publication and Period Covered

Final

14. Project Officer

Barbara A. Smith

15. Supplementary Notes (Funding programs, titles of related publications, etc.)

This report is also available in French: "Vol 201 a été déplacé à la porte 102 : problématique du transport des personnes ayant des difficultés d'ordre cognitif ou émotionnel", TP 10450F

16. Abstract

This report presents an analysis of difficulties created by cognitive or emotional disability in the use of Canadian public transportation.

The study activities include: 1) development of a lexicon for terms related to mental disability, 2) examination of systems for classifying mental disability, 3) matrix of symptoms versus travel tasks highlighting combinations likely to create problems, 4) review of types of demographic information related to mental disability and travel, 5) analysis of demographic data from Statistics Canada Health and Activity Limitation Survey, 6) survey of transportation demand and problems encountered, and 7) development of scenarios of prototypical travel problems created by various mental disabilities.

Recommendations are provided for: 1) personnel training, 2) user training, 3) improvements in procedures, operations, and information design, 4) customer services, 5) technology and facilities for terminals, 6) technology and facilities for vehicles, and 7) areas for further exploratory research.

17. Key Words

Passengers, mental, disability, travellers, transportation, air, emotional, terminals, cognitive, accessibility.

18. Distribution Statement

Limited number of copies available from the Transportation Development Centre

| | | | | |
|---|---|---|---|---|
| 19. Security Classification (of this publication) | 20. Security Classification (of this page) | 21. Declassification (date) | 22. No. of Pages | 23. Price |
| Unclassified | Unclassified | — | 92 | — |

Transports Canada Transport Canada

# FORMULE DE DONNÉES POUR PUBLICATION

| | | |
|---|---|---|
| 1. N° de la publication de Transports Canada<br>TP 10450E | 2. N° de l'étude<br>7176 | 3. N° de catalogue du destinataire |

4. Titre et sous-titre
Flight 201 Has Been Moved to Gate 102: Challenges Experienced by Travellers with Cognitive or Emotional Disabilities

5. Date de la publication
Juin 1990

6. N° du document de l'organisme exécutant
—

7. Auteur(s)
Paul McInerney, Shari Stein, Ben Barkow, Sandor Wiseman

8. N° de dossier — Transports Canada
D 1450-103-95

9. Nom et adresse de l'organisme exécutant
Behavioural Team, A Corporation
21 Vaughan Road
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Toronto (Ontario)
M6G 2N2

10 N° de dossier — ASC
16SD.T8200-8-8538-A

11. N° de contrat — ASC ou Transports Canada
—

Nom et adresse de l'organisme parrain
Centre de développement des transports (CDT)
Complexe Guy-Favreau
200 ouest, boul. René-Lévesque
Tour ouest, suite 601
Montréal (Québec) H2Z 1X4

13. Genre de publication et période visée
Final

14. Agent de projet
Barbara A. Smith

15. Remarques additionnelles (Programmes de financement, titres de publications connexes, etc.)
Ce document est également disponible en français : « Vol 201 a été déplacé à la porte 102 : problématique du transport des personnes ayant des difficultés d'ordre cognitif ou émotionnel", TP 10450F

16. Résumé

Ce rapport fournit une analyse des difficultés rencontrées par les personnes ayant des problèmes d'ordre cognitif ou émotionnel dans les transports publics canadiens. L'étude comprend les activités suivantes : 1) le développement d'une terminologie, 2) l'examen de quelques systèmes de classification, 3) la préparation d'une tabulation croisée des symptômes de divers troubles et des activités typiquement associées avec le déplacement pour mettre en lumière les combinaisons risquant de conduire à des problèmes, 4) une revue des questions juridiques par rapport aux transports, 5) une analyse des données démographiques provenant de l'Enquête sur la santé et les limitations d'activité de Statistique Canada, 6) l'analyse d'un questionnaire distribué par Behavioural Team sur la demande des services de transport et les problèmes rencontrés, et 7) le développpement de quelques scénarios décrivant les problèmes typiques.

Le rapport fournit également des recommandations relatives à : 1) la formation du personnel des transports, 2) l'instruction des usagers des transports, 3) l'amélioration des procédures, des opérations et de l'affichage d'informations, 4) les services aux clients, 5) la technologie et les équipements à bord des véhicules, et 7) des questions exigeant des recherches supplémentaires.

17. Mots clés
Passagers, déficience mentale, transports, terminus, handicap, cognitif, émotionnel, accessibilité, aérien

18. Diffusion
Le Centre de développement des transports dispose d'un nombre limité d'exemplaires.

| | | | | |
|---|---|---|---|---|
| 19. Classification de sécurité (de cette publication) | 20. Classification de sécurité (de cette page) | 21. Déclassification (date) | 22. Nombre de pages | 23. Prix |
| Non classifiée | Non classifiée | — | 92 | — |

Canada

# Acknowledgements

The authors gratefully acknowledge the advice and assistance provided to the project team by the Transportation Development Centre, Policy and Coordination Group, Transport Canada and by the following persons who formed the Advisory Committee for the project.:

| | |
|---|---|
| Janyce Clark | Transport Canada |
| Mark Gromoll | National Transportation Agency |
| Frank Hare | Transport Canada |
| Marie-France Joly | Université de Montréal |
| Scott Pope | York University |
| Frances Scollan | Centre Gary Taylor, Montréal |
| Barbara A. Smith | Transportation Development Centre, Program Officer |
| Ling Suen | Transportation Development Centre, Committee Chair |

The project also benefited from the input of persons who left for other positions during the course of the project:

| | |
|---|---|
| Jean-Guy Richard | Transportation Development Centre |
| Margaret FitzPatrick | Behavioual Team |

Finally, several organizations responded to inquiries for information; in particular, we would like to thank the following organizations who assisted in the distribution of the mail-out survey:

Canadian Mental Health Association
Friends of Schizophrenics
Learning Disabilities Association of Canada
People First/Canadian Association for Community Living

# SUMMARY

## 1. Introduction

*Flight 201 has been moved to Gate 102*–this scenario evokes many difficulties in the use of public transportation. Dealing with this incident can be especially difficult for persons with cognitive or emotional disabilities. A gate change in a large terminal can create problems for persons with disabilities affecting auditory perception and memory, problem solving, or wayfinding, to name a few cognitive disabilities. This scenario can also pose problems for persons with emotional disabilities; the unpredictability, complexity, and time stress implied in the scenario places potentially problematic demands on the emotional aspects of coping with travel tasks.

Transportation-related difficulties created by cognitive or emotional disability have received little attention in research to date. This study examines difficulties in the use of public transportation associated with these disabilities. This work was conducted by a project team representing the disciplines of applied psychology, clinical/forensic psychology, ergonomics, law, and social work.

This broad-based investigation covered the following issues:

- **Acceptable terminology:** A lexicon was developed of currently acceptable terminology and usage related to cognitive and emotional disorders.

- **Classification of mental disorders:** Existing classifications were reviewed. As well, a cross-tabulation of symptoms by travel task was developed to highlight task/symptom combinations where difficulties would likely occur.

- **Legal issues:** A review of pertinent statutes, regulations, and related rulings was conducted.

- **Demographics of the target market:** Demographic data from Statistics Canada's Health and Activity Limitation Survey were analyzed to characterize the target market, the demand for transportation, and problems encountered.

- **Demand for transportation and travel problems:** A small-scale survey was conducted to obtain more detailed information on travel problems and demand for public transportation than was available from the Health and Activity Limitation Survey.

As well, further information was gathered from representatives of the transportation industry, governmental organizations, and organizations interested in disabilities.

## 2. Conclusions

The following conclusions were reached:

1. Many persons with mental disabilities report having no unique problems using public transportation. In some cases, medication can control symptoms that would cause problems; in other cases, the disability is not relevant to transportation.

2. Many types of problems are transient; the type of trip or situation (e.g. unfamiliar destination) can determine the manifestation of a problem.

3. Severity of the disorder affects the manifestation of problems.

4. Secondary characteristics of a disability are a significant source of problems. For example, timidity may prevent some people with reading difficulties from asking for assistance.

5. Physical disabilities may accompany mental disabilities, as in the case of head injuries sustained in accidents.

6. Inaccessible transportation is only one reason persons with mental disabilities are restricted in their travel; cost to the user is another concern.

7. Persons with disabilities in the mid-range of severity would benefit most from accessibility initiatives.

8. A significant number of persons with mental disabilities actively avoid public transportation or certain travel situations.

9. Adaptive strategies help overcome limitations imposed by certain disorders. For example, landmarks are used by people who have trouble reading.

10. Problems are most prevalent in terminals, followed by on board aircraft, inter-city buses, and trains.

11. There has been little litigation related specifically to mental disability and public transportation in Canada. However, rulings in the area of physical disability and human rights have favourable implications for mental disability.

## 3. Recommendations

- **Personnel training:** Two aspects of training are required, making personnel comfortable serving persons with mental disabilities and showing them how to help. An analysis of training needs is needed before such training can be developed. The scenarios illustrating representative difficulties developed in this study can be a useful tool for further research or for personnel training.

- **User training:** To a certain extent, training can provide users with skills and information to help them overcome travel difficulties resulting from their disability. For example, training in the use of landmarks could help persons with reading or orientation difficulties. As with personnel training, the first step is for an analysis of training needs to be conducted to determine who could benefit from what kind of training.

- **Procedures, operations, and information:** Simplifying and standardizing procedures, operations, and information can eliminate many problems. An analysis of what to standardize and how to standardize should be undertaken. Standard colours usually figure prominently in standardization efforts of signage, for example, so they would probably serve a useful role in this case. Specific recommendations for reducing the complexity of information and procedures would arise from a systematic human factors analysis.

- **Customer services:** Some travel problems will likely only be solved by providing customer services geared to persons with cognitive or emotional disabilities. These include: 1) a services for locating and reporting lost persons, and 2) special attention from terminal and carrier personnel to reduce the need for attendants (e.g. personal notification of arrival at the destination), and 3) a safety net program.

A safety net program would incorporate the features that have just been discussed individually (e.g. training, special customer services). A coherent program could be publicized to encourage the use of public transportation by those who now actively avoid it.

- **Technology and facilities for terminals:** Rest areas and special-purpose information display and wayfinding systems are required. Specific technology whose usefulness should be investigated is an announcement playback system.

- **Technology and facilities for vehicles:** Safety and passenger well-being is of particular concern aboard vehicles where there are limited resources for dealing with emergencies. For this reason, an analysis of special facility requirements and hazards is required. For example, crowding and commotion aboard vehicles can aggravate certain problems, such as restlessness or disorientation caused by Alzheimer's disease. An example of a hazard is washroom doors that cannot be unlocked from outside.

## 4. Areas for further exploratory investigation

Besides initiatives outlined in the previous section, some issues need further investigation before specific initiatives can be formulated. These include:

- **Improving awareness**: Practices and policies of carriers, governmental organizations, and other parties regarding mental disability should be reviewed. The goal of this analysis would be to identify the more progressive approaches and promote their dissemination.

- **Segmenting the target market:** This study dealt mainly with mental disability as a single category. One subcategory that requires further attention in research is elderly persons with disabilities. As well, further research is needed to examine specific aspects, such as memory problems, in more depth.

- **Demographic and survey research:** Further research, for example, could establish a baseline for comparing persons with mental disabilities to the rest of the population.

- **Safety and cost:** These factors are the traditional obstacles to accessibility initiatives. They should be examined in further research so that sound trade-offs can be made between these factors and accessibility.

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# 1. BACKGROUND

## 1.1 Problem Statement

Accessible public transportation for all Canadians is an important objective of the Transportation Development Centre (TDC) of Transport Canada. The Research Analysis and Special Programs division works towards this goal by examining special issues related to elderly and disabled travellers. Progress has been made on several fronts such as wheel-chair access and facilities for persons with sensory impairments. This study examines issues of access for a segment of the population that has received little attention in past research, namely people with cognitive or emotional disabilities.

## 1.2 Methods of Investigation

The following methods of investigation were used:

- **Information search**: Information was collected from on-line databases, governmental organizations in Canada and abroad, client organizations, and academia.

- **Liaison with organizations**: Behavioural Team contacted over thirty organizations representing disabled persons, the transportation industry, and government departments.

- **Classification of disorders**: The applicability to transportation research of current systems for classifying mental disorders was reviewed. The classification was develop which includes ratings of the probability that a given symptom would create travel difficulties. Ratings were performed by Dr. Sandor Wiseman, the Project Team expert in clinical/forensic psychology.

- **Survey of persons with disabilities**: Working through client-oriented organizations such as the Canadian Mental Health Association, persons with cognitive or emotional disabilities were surveyed.

- **Demographic analyses**: Data from the most recent major Canadian survey of disabled persons were analyzed. The analysis was based on a special computer run of the Health and Activity Limitation Survey prepared for Behavioural Team.

- **Scenario interviews**: Scenarios were developed and reviewed with people representing government departments, carriers, and users with disabilities.

- **Analysis of legal issues** : A research paper was prepared by the Project Team legal expert, Shari Stein, LL.B.

## 1.3 Scope of this Study

TDC retained Behavioural Team to examine difficulties in the use of public transportation associated with cognitive or emotional disabilities. A project team was assembled representing the disciplines of applied psychology, clinical/forensic psychology, ergonomics, law, and social work.

This broad-based investigation covered the following issues:

- **Acceptable terminology:** A lexicon was developed of currently acceptable terminology and usage related to cognitive and emotional disorders.

- **Classification of mental disorders:** Existing classifications were reviewed and a cross-tabulation of symptoms by travel task was developed to highlight areas where difficulties would likely occur.

- **Legal issues:** A review of statutes, regulations, and related rulings was conducted.

- **Demographics of the target market:** Demographic data from Statistics Canada's Health and Activity Limitation Survey (HALS) were analyzed to characterize the target market, the demand for transportation, and problems encountered.

- **Demand for transportation and travel problems:** A small-scale survey was conducted on travel problems and demand for public transportation.

- **Scenarios of travel problems:** Representatives of government departments, carriers, terminal operators, and users were presented several scenarios of prototypical travel problems for their comments.

# 2. APPROPRIATE TERMINOLOGY

## 2.1. Purpose

This chapter provides guidance for using terminology related to mental disability. It was developed by synthesizing information from various published sources and interviews with representatives of persons with disabilities. This chapter covers:

- usage,
- terminology common to all disabilities,
- umbrella terms related to mental functioning, and
- terminology for specific disorders.

Equivalent French terms and a summary table are also presented.

## 2.2 Usage

Proper use can be virtually assured by following seven principles:

**1. Avoid gratuitous reference to a disability**: Mention the disability only if it is pertinent. Just as irrelevant labels such as *female* lawyer or ethnic judge are not considered acceptable, labels like "pilot *with a history of mental illness*" should be avoided when the disability is not the topic of the communication.

**2. Emphasize the person, not the disability.**

USE: *person with a* psychiatric disability,
*person living with a* mental disorder, or
*cognitively disabled person.**

*The phrase *disabled person* is considered objectionable because it implies that the person as a whole is disabled. However, in the example above, the term cognitively clearly limits the scope of the disability making its usage more acceptable.

| DO NOT USE: | REASON: |
|---|---|
| *the* emotionally disabled | using *disabled* as a noun emphasizes disability |

**3. Use objective terms, not emotional or value-laden ones**: Objective terms describe functional limitations. Emotional or value-laden terms, on the other hand, comment on the personality or state of a person. Even positive connotations are not desirable; they still reflect unfounded assumptions about the person. Avoid terms that have connotations of courage, pain, pity, fear, guilt, or abnormality.

USE: functional limitation in the area of..., or
person with...

| DO NOT USE: | REASON: |
|---|---|
| sufferer of... | implies pain |
| ...patient | implies a medical situation |
| afflicted with... | implies the need for pity |
| victim of... | implies some element of injustice |

**4. Avoid usage that implies an unflattering comparison**: For example, do not use the term "normal" when referring to persons without a disability. This usage implies that persons with disabilities are "abnormal".

USE: non disabled and..., non learning disabled and...

DO NOT USE: normal and...

**5. Use the appropriate level of detail**: General terms such as *persons with disabilities* or *persons with mental disorders* implies a homogeneous group with similar needs. However, disabilities have widely different effects; in addition, manifestations of the same disorder vary greatly between people, particularly in the case of cognitive or emotional disorders.

Use the level of detail that best matches the statement being made. For example, instead of stating "persons with disabilities have trouble using public transit", use "persons with restricted mobility or limited reading skills...".

**6. Avoid medical jargon unless it is pertinent**: The indiscriminate use of medical terminology is undesirable for several reasons. First, medical diagnoses can carry a stigma. Second, the communication is placed in an inappropriate medical context. Finally, medical labels give little information about an individual's behaviour or degree of functional limitation. The manifestations of many mental illnesses, learning disabilities, or developmental disabilities vary greatly from person to person. For these reasons it is preferable, for instance, to refer to *a fear of open spaces* rather than to use the term *agoraphobia.*

On the other hand, care should be taken to not use overly soft terminology; this could lead to serious disorders not being regarded as seriously as they should.

**7. Use current terms**: Appropriate terms change over time and may be subject to linguistic or regional variations. To ensure that the appropriate terminology is used, consult up-to-date lexicons. Avoid direct translation even with the help of French-English dictionaries; these dictionaries do not necessarily use terms that persons concerned find acceptable. If in doubt about correct terminology or usage, consult the appropriate local organization.

## 2.3 General Terminology

Terminology associated with all disabilities and terms potentially used with reference to mental functioning are considered here.

### 1. *Disability* versus *handicap*

The term *disability* has been defined by the World Health Organization as: *any restriction or lack (resulting from an impairment) of ability to perform an activity in the manner or within the range considered normal for a human being.* (Health and Activity Limitation Survey User's Guide, 1988).

The term *handicap*, on the other hand, refers to barriers to performing a function. Barriers include stereotypes, people's perceptions of their own abilities, inaccessible facilities, and the disability itself. In short, a person with a disability is not necessarily handicapped and vice versa.

The term *disability* is usually preferred over *handicap*, though there are some inconsistencies. For example, the term handicap is sometimes acceptable, as in the phrase *invisible handicap.*

### 2. *Disease* and *illness*

The terms *disease* and *illness* should be used only when referring to an actual disease or illness. Many disabilities are not due to diseases.

### 3. Related Terms

Various terms are commonly used in the context of mental functioning. The proper use of some of these terms is discussed below.

| AVOID USING: | USE INSTEAD: |
|---|---|
| birth defect | congenital disability, ... from birth |
| brain damage | brain injury |
| fits, spells | seizures |

### 4. Adjunct Terms

Terms that refer to mental functioning are typically used with particular adjunct terms (as in mental health *problems*). Here, the suitability of some common terms is presented.

| USE: | AVOID OR USE IN RESTRICTED CONTEXTS: |
|---|---|
| difficulty | |
| disorder | condition |
| problems | deficiency |
| trouble | dysfunction |

### 2.4 Umbrella Terms

In most situations, terms called for are those that refer to broad groups of mental disorders. This section defines recommended terms and discusses issues associated with their use.

#### 2.4.1 All-inclusive terms

The term *mental disorder* is used by the International Classification of Disorders, revision 9 (ICD-9) to refer all-inclusively to disorders associated with mental functioning. However, this term is not without problems:

- The term *mental disorder* is prone to confusion with *mental handicap,* a term that refers to a subgroup of disorders.

- *Mental disorder* is sometimes used as a synonym for *psychiatric disorder*, another subgroup of disorders.

- Organizations tend to prefer terms that accent positive aspects of their clients. For example, mental *health* problem is preferred to mental *disorder*.

The concept of an all-inclusive term is problematic. Organizations tend to emphasize the difference between their clients or members and those of organizations concerned with different disorders. Consequently, they are sometimes averse to being grouped together under any all-inclusive term. The concept of an all-inclusive term is also of limited usefulness because "there is no satisfactory definition that specifies the precise boundaries for mental disorder" (DSM III, American Psychiatric Association, 1980).

Notwithstanding these problems, mental disorders can be described as *a clinically significant behavioural or psychological syndrome typically associated with either distress or disability which implies the presence of some behavioural, psychological, or biological dysfunction* (based on American Psychiatric Association, 1980; Kendall, 1986).

Problems associated with all-inclusive terms can be kept to a minimum by observing the following practices:

- Ensure the context makes the sense of the term clear so it does not become confused with developmental delay or psychiatric disorders.

- Recognize that there is not rigid boundary between mental and non-mental disorders; schizophrenia, for example, can be considered a mental disorder, a neurological disorder, or both.

- Recognize that there is no rigid boundary between mental disability and mental functioning not impaired by a disability.

- When possible, use more specific terms, such as those discussed next.

### 2.4.2 Terms for major groups of mental disorders

Organizations such as the World Health Organization have developed classifications of mental disorders. The one proposed here is adapted from several sources and is comprised of the following categories:

**Mental health problems (alternate terms: mental illness, or psychiatric disorders)**: an unsatisfactory level of psychological well-being which may or may not be a manifestation of an identifiable illness. Learning disabilities and mental handicaps are excluded.

**Learning disabilities**: a generic term that refers to a heterogeneous group of disorders due to an identifiable or inferred central nervous system dysfunction. Such disorders may be manifested by delays in early development and/or difficulties in any of the following areas: attention, memory, reasoning, coordination, communicating, reading, writing, spelling, calculation, social competence, and emotional maturation (from the Learning Disabilities Association of Canada).

*Dyslexia* is used popularly, but incorrectly, as a synonym for learning disabilities. It is only one of many learning disabilities though possibly the most prevalent. The term learning *disability* is preferred.

**Mental handicap (alternate terms: developmental delay or disability, intellectual impairment)**: The definition proposed by the American Association on Mental Deficiency in 1973 is: *a significantly subaverage general intellectual functioning existing concurrently with deficits in adaptive behaviour, and manifest during the developmental period*. The definition of this term is contentious and available definitions tend to be discipline-specific; the medical profession focuses on physical causes, psychologists emphasize intellectual capabilities, social workers focus on adjustment, etc. Reflecting this contention, the Canadian Association for Community Living does not promote any one definition.

There is also little agreement about the single best term to use; the following are cited as acceptable by various sources: developmental disability, developmental handicap, intellectual handicap, and intellectual impairment. *Mental handicap* is recommended here for the following reasons:

- it is well-known,
- it emphasizes the cognitive aspect of the disability, and
- it does not overemphasize the developmental aspect of the disability.

### 2.4.3 Alternate classification

In some situations, the forgoing classification may not provide the desired distinction or grouping. An alternate classification is one comprised of the following categories:

**Cognitive disorders**: any disorder requiring special attention to, or alternate methods of, communicating concepts and instructions, such as learning disability, mental illness, developmental disabilities, or other causes of low comprehension (based on a definition in *Inventory of Materials for Reducing Attitudinal Barriers Towards Disabled Persons,* a Canadian Rehabilitation Council for the Disabled report, 1988).

**Emotional disorders**: any disorder affecting the control over, or appropriateness of, the emotional component of responses to situations that results in difficulties completing everyday activities.

## 2.5 Terms For Specific Types of Disorders

### 2.5.1 Subgroups of major groups of disorders

This section describes the subgroups that are included under each major groups introduced in the previous section.

- **Mental disorders**: These include mental health problems, learning disabilities, developmental disabilities, cognitive disorders, and emotional disorders. Neurological disorders are not included. Equivalent terms include psychological disorder and mental disability.

- **Learning disabilities**: These include various syndromes of which the most well known is dyslexia. Learning disability does not include difficulties in learning due to visual, hearing, or motor handicaps, developmental disabilities, emotional disorders, and environmental disadvantage.

- **Mental handicap**: Additional distinctions are made in the clinical literature by specifying the degree of severity (i.e. mild, moderate, severe, and profound). Learning disabilities are not included here.

- **Mental health problems (or mental illness, psychiatric disorders)**: Psychiatric disorders include psychoses, neuroses, personality disorders, and non-psychotic mental disorders.

- **Emotional and cognitive disorders**: As discussed in the previous section, these terms cut across categories defined by the other umbrella terms (i.e. mental health problems, learning disabilities, and developmental disabilities). These terms refer not to *groups* of disorders, but to *particular aspects* of many disorders. These groupings could be further subdivided by using more specific functional terms; for example, *anxiety- and anger-related disorders*, in the case of emotional disorders. With cognitive disorders, terms such as memory, judgment, and language would provide a finer breakdown (for example, *memory disorders*).

### 2.5.2 Definitions and individual disorders

Terms introduced in the foregoing section are defined here; the terms and definitions used were selected from the ICD-9, unless otherwise noted. Not all the terms used in the ICD-9 or other medical sources are preferred by organizations representing persons with these disabilities. As well, the organizations contacted indicated their preference for the more general terms. For these reasons, the specific terms listed here should be used sparingly.

- **Psychoses**: Mental disorders in which impairment of mental function has developed to a degree that interferes grossly with insight, ability to meet some ordinary demands of life or to maintain adequate contact with reality. It is not an exact or well-defined term.

Some psychoses are syndromes characterized by an impairment of orientation, memory, comprehension, calculation, learning capacity, and judgment. Other features which may be present include a shallowness or lability of affect, persistent disturbance of mood, lowering of ethical standards, exaggeration or emergence of personality traits, or diminished capacity for independent decision.

Psychoses can be associated with the following well-known syndromes or states:

- senility
- paranoia
- manic-depression
- schizophrenia

Schizophrenia is not the same as multiple, or split, personalities. According to the Friends of Schizophrenics organization, it is a group of disorders characterized by some or all of the following: difficulty pursuing a line of thought, hallucinations, delusions, inappropriate moods, and difficulty distinguishing between reality and fantasy.

- **Neuroses**: Neurotic disorders are mental disorders without a demonstrable organic basis in which the person may have considerable insight and little confusion between subjective experiences and reality. Behaviour may be greatly affected though remaining within socially acceptable limits. The principle manifestations include excessive anxiety, hysterical symptoms, phobias, obsessional and compulsive symptoms, and depression. The distinction between neurosis and psychosis is difficult and controversial.

- **Personality disorders**: Deeply ingrained maladaptive patterns of behaviour generally recognized in adolescence or earlier and continuing throughout most of adult life. Sometimes, personality disorders are referred to as psychopathologies.

- **Non psychotic mental disorders**: This term covers a variety of miscellaneous disorders not classified elsewhere. These include the following:

  - sexual deviations and disorders
  - alcohol and drug dependence
  - stammering and stuttering
  - anorexia nervosa
  - tics
  - enuresis
  - culture shock
  - pathological gambling
  - kleptomania
  - pyromania

- **Dyslexia**: is a syndrome characterized by:

  - difficulty learning and remembering printed words,
  - reversal of orientation of letters, or sequence of letters,
  - persistent spelling errors, and
  - uncertainty as to right or left handedness.

## 2.6 Summary of Recommended Terms

By way of summary, the recommended terms are presented below:

**1. Classification of recommended terms**

- Disability
  - Mental disorder
    - -mental health problem or psychiatric disorders
      - -psychoses
      - -neuroses
      - -personality disorders
      - -non psychotic mental disorders
    - -learning disability
      - -dyslexia
      - -dyscalculia and other syndromes
    - -mental handicap

**2. Alternate classification**

- Disability
    - Mental disorder
        - cognitive disorder (or disability)
        - emotional disorder (or disability)

## 2.7 Substitutes for Unacceptable Terms

Several terms in common use are not consistent with the recommendations presented here. The following list presents some acceptable substitutes for these terms.

| DON'T USE | USE INSTEAD |
|---|---|
| crazy/insane | mentally ill, mental health problems, psychiatric disability |
| mentally retarded/ intellectually deficient/ mentally deficient | mentally handicapped, developmentally disabled, or developmentally delayed |
| mongolism | Down's syndrome |
| emotionally disturbed | emotionally disabled |
| nervous disease | emotional disorder |

## 2.8 Equivalent French Terminology

This section presents French equivalents of terms defined above.

**1. General terms**

| | |
|---|---|
| disabled persons | *personnes handicapées* |
| handicap, disability | *handicap** |
| disorder | *troubles* |
| functional limitation | *limitation fonctionnelle* |

*In contrast to English terminology, *handicap* is preferred.

**2. Umbrella terms**

| | |
|---|---|
| mental disorder | *déficience mentale** |
| mental handicap | *déficience intellectuelle, déficience mentale* |

| | |
|---|---|
| mental health problems | *troubles mentaux*<br>*troubles de santé mentale*<br>*troubles psychiques*<br>*troubles psychologiques* |
| learning disability | *troubles d'apprentissage* |
| emotional disorder | *troubles émotifs*<br>*déficience émotive* |
| cognitive disorder | *troubles cognifs*<br>*déficience cognitive* |

*This term also refers to both psychiatric disorders and to mental handicaps and hence may lead to confusion.

**3. General terms to avoid**

| NE PAS UTILISER | UTILISER PLUTôT |
|---|---|
| anormal | personne ayant une déficience<br>personne atteinte d'une déficience |
| l' infirmes | personne ayant une limitation fonctionnelle |
| estropié | personne handicapé |
| affligé | personne atteinte de... |
| souffrant | " |
| victime | " |
| invalidité | " |

**4. Umbrella terms to avoid**

| NE PAS UTILISER | UTILISER PLUTôT |
|---|---|
| arriération mentale/ retardé/débile/ imbécile/mongolisme | personne ayant une déficience intellectuelle, |
| fou/dément/ malade mentale | personne ayant des troubles psychiques, psychologiques, or émotifs |

# 3. CLASSIFICATION OF MENTAL DISABILITY

## 3.1 Purpose and Overview

Classification provides a framework to identify subgroups that have similar travel needs and problems. In this chapter, aspects of mental disability are classified with regard to their implications for travel. Issues in classification are discussed and a matrix cross-tabulating functional limitations by travel tasks is presented.

## 3.2 Issues in Classification

The three main issues to consider in this classification are:

- what distinguishes "normal" functioning from that impaired by a disorder?
- what disorders are within the realm of interest?
- what basis can be used for a useful classification for transportation research?

The first issue is one of definition: "there is no satisfactory definition that specifies the precise boundaries for mental disorder" (DSM-III, American Psychiatric Association, 1980). Some problems faced by would-be definitions are:

- distinguishing normal reactions to stressful situations from manifestations of a disorder,
- the lack of consensus on the definition of *disease* or *disorder,*
- determining what is a disease of the mind versus one of the body,
- the impact of values on the definition.

Problems of definition extend to specific disorders. The boundary between psychiatric disorders and neurological ones is blurred and is becoming less distinct with time.

Finally, there is the issue of a basis for classification. Typically, mental disability is classified in terms of medically-defined disorders. Two standard schemes for classifying disability use disorders as the unit of classification: the American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders IIIR (DSM-IIIR) and the World Health Organization's International Classification of Disease-revision 9 (ICD-9 or ICD-9CM). DSM-IIIR uses 229 diagnostic codes and is restricted to disorders of a psychiatric nature. The ICD-9 covers all types of disease and devotes 185 classification codes to mental disorders. The ICD-9 is the standard classification system for demographic surveys around the world. The Statistics Canada Health and Activity Limitation

Survey, for example, is based upon the ICD-9.

### 3.3 Classification Method

For the purpose of transportation research, classification by disorder has several limitations. It is difficult to determine which tasks would be impaired by which disorders because: 1) most disorders are accompanied by many symptoms, 2) symptoms vary from person to person, 3) problems depend on symptom severity which, in turn, is a function of whether the disorder is in remission or the success of treatment programs or life-skills training, and 4) symptoms in some disorders are transient or triggered by very specific situations.

To overcome these problems, the approach used here is to use symptoms as a basis of classification. The rationale is that the presence of a particular symptom (e.g. impaired memory) will create similar problems for travel regardless of the disorder causing the symptom.

For the classification, a matrix of travel tasks and symptoms was created. Dr. Sandor Wiseman, the Project Team expert in clinical psychology then rated each combination of task and symptom. The ratings were a judgment of the probability a symptom would create difficulties completing a particular task or activity.

### 3.4 Discussion of Matrix Rankings

The matrix rankings were made with the following code:

1= probably no problem
2= possibly a problem
3= probably a problem

The rankings refer to difficulties faced over and above those faced by a person with no symptoms. In the case of some transient symptoms (e.g. anger), the rankings represent the problems that occur when the symptom is present. For comparison sake, rankings of the difficulty of tasks for a person with no psychiatric symptoms are included in the matrix.

The results of the rankings can be found at the end of this chapter. What follows is a discussion of the rankings for each symptom ranked.

- **Person with no symptoms**: The rankings of problems encountered by people with no symptoms were made by considering two factors: 1) what tasks would be unfamiliar to the public who do not travel frequently (e.g., going through customs), and 2) what tasks involve materials where poor design could lead to problems in their use (e.g. confusing visual displays).

- **Psychomotor agitation**: If present in a severe degree, virtually any behaviour will be affected, but especially those involving fine motor skill.

- **Antisocial behaviour**: Antisocial behaviour can take on a variety of forms ranging from lying, cheating, stealing, promiscuity, drug or alcohol abuse. These behaviours are, in general, under voluntary control, and are thus a function of situational and circumstantial variables which cannot be anticipated. Thus, a person prone to antisocial behaviour might lie in a particular situation or steal something, but this cannot be said to be probable in a given situation.

- **Paranoid ideation**: See discussion for "delusions".Again, this is very situation-specific and specific to a given individual and his or her idiosyncratic ideation.

- **Suicidal ideation**: Suicidal ideation accompanies severe depression. As such it is associated with other symptoms of depression such as psychomotor retardation, appetite changes, sleep pattern changes, loss of energy and motivation, etc.

- **Irritability**: This will generally affect situations involving interpersonal relations, although any situation that might lead to frustration will exacerbate it, for example, delays, loss of possessions, or unforeseen changes that are beyond the control of the person.

- **Anger**: Interpersonal relations will be affected as well as situations which engender frustration.

- **Tremors and Psychomotor retardation**: The extent and severity of the tremors or psychomotor retardation are significant in determining the likelihood of a problem.

- **Impaired judgment**: The extent to which feedback and assistance of others is available will be an important factor in the manifestations of impaired judgment.

- **Anxiety (non-social)**: The manifestations of this symptom depend on the particulars of the avoidant individual. For example, if the anxiety is associated with air travel, then all other behaviours seen to be associated with traveling by air may be affected. As well, phobias of open spaces will lead to problems with tasks performed in such spaces.

- **Anxiety (social)**: As with non-social sources of anxiety, problems associated with this symptom vary with the particular type of anxiety. In general, social anxiety will involve avoidance of interpersonal interaction.

- **Indecisiveness and reticence**: Degree is important in determining the probability of a problem.

- **Impaired abstract thinking**: This symptom is generally associated with general intellectual impairment (i.e. mental retardation), and psychotic mental disorders such as schizophrenia. Again, the degree to which it is present is very important. When it is associated with psychoses, then another important factor is whether the disorder is under treatment.

- **Impaired memory, impaired concentration, and tangential thinking**: All of these symptoms will lead to problems in following instructions or completing tasks. At least in the case of impaired memory, strategies such as taking notes may alleviate some problems.

- **Intellectual impairment**: Rankings assume mental functioning in the "retarded" range. There is, of course, a direct relationship between degree of mental impairment and degree of difficulty in functioning.

- **Impaired speech**: Rankings refer to impairment of "speech" (expressive language) rather than impairment of understanding of language (receptive language). If receptive language is also impaired, then the understanding of written or oral messages will pose difficulties as well.

- **Appetite changes**: These, per se, may not particularly affect activities associated with travel. They may be associated with other symptoms, however, in the context of a particular disorder, and those other symptoms should be considered.

- **Problems of elimination, nausea, vomiting**: These will generally be a problem at the time they occur, in which case they would affect any associated activity.

- **Irregular sleep patterns**: This should not pose a problem of significance unless there are other associated symptoms such as irritability, lethargy, etc.

Some symptoms do not appear in the matrix because they could not be given a rating without excessive caveats. These symptoms are:

- **Delusions**: Ratings would require information about the content of the delusion. For example, the delusion that one was Jesus could lead to different problems than if the delusion was that one was loved by a train conductor.

- **Mood shifts**: Individuals subject to mood shifts will have their mood fluctuate from depressed to elevated. Problems will be a function of the particular mood of the individual as well as the associated symptomology.

- **Hallucinations**: Hallucinations are generally auditory and are usually associated with a psychotic illness. The content of the hallucinations needs to be known before ratings can be made.

- **Sensory impairments**: Information about which sensory system is impaired (e.g., vision or hearing), the degree of impairment, and the nature of impairment is required.

- **Compulsions**: The particular compulsion being experienced is necessary for making ratings.

## Table 3.1: Matrix of Symptoms and Travel Tasks

| *SYMPTOMS* | *Person With No Symptom* | *Psychomotor Agitation* | *Antisocial Behavior* | *Paranoid Ideation* | *Suicidal Ideation* | *Irritability* |
|---|---|---|---|---|---|---|
| **Pre-Trip Tasks** | | | | | | |
| *acquire published information* | 1 | 1 | 1 | 1 | 3 | 1 |
| *read information* | 2 | 3 | 1 | 1 | 3 | 2 |
| *make a trip plan* | 2 | 3 | 1 | 1 | 3 | 2 |
| *book tickets* | 2 | 2 | 2 | 1 | 3 | 3 |
| | | | | | | |
| *visit travel agent* | 1 | 3 | 2 | 1 | 3 | 3 |
| *pack (incl. documentation)* | 1 | 3 | 1 | 1 | 3 | 2 |
| *use phone* | 1 | 3 | 1 | 1 | 3 | 2 |
| *use phone (automated assistance)* | 2 | 2 | 1 | 1 | 3 | 2 |
| **Tasks at Terminal** | | | | | | |
| *buy ticket* | 1 | 3 | 1 | 1 | 2 | 2 |
| *check/retrieve baggage* | 1 | 3 | 1 | 3 | 3 | 2 |
| *go through customs* | 2 | 3 | 2 | 3 | 2 | 3 |
| *select proper gate/bus* | 1 | 2 | 1 | 3 | 2 | 1 |
| *board (incl. producing ticket, etc)* | 1 | 2 | 1 | 2 | 2 | 2 |
| | | | | | | |
| *use visual displays* | 2 | 3 | 1 | 1 | 3 | 2 |
| *use telidon systems* | 2 | 3 | 1 | 1 | 3 | 2 |
| *monitor auditory messages* | 1 | 3 | 1 | 1 | 2 | 1 |
| *find way (e.g. platform)* | 1 | 3 | 1 | 1 | 2 | 1 |
| *follow verbal instructions* | 1 | 3 | 1 | 2 | 3 | 2 |
| | | | | | | |
| *ask passerby for information* | 1 | 2 | 1 | 2 | 3 | 2 |
| *retain relevant forms (e.g. ticket)* | 1 | 3 | 1 | 1 | 1 | 1 |
| *wait* | 1 | 3 | 1 | 1 | 1 | 3 |
| *queue* | 1 | 3 | 1 | 1 | 1 | 3 |
| *find/report lost possessions* | 1 | 3 | 1 | 3 | 3 | 3 |
| | | | | | | |
| *evacuate during emergency* | 2 | 3 | 1 | 2 | 3 | 3 |
| *use washroom* | 1 | 2 | 1 | 1 | 1 | 1 |
| *eat/drink/smoke* | 1 | 2 | 1 | 1 | 1 | 1 |
| *use stairs. escalators, elevators* | 1 | 3 | 1 | 1 | 1 | 1 |
| *converse socially* | 1 | 3 | 1 | 2 | 3 | 3 |
| **Tasks Aboard Vehicle** | | | | | | |
| *find seat* | 1 | 2 | 1 | 1 | 1 | 2 |
| *stow baggage* | 1 | 3 | 1 | 1 | 1 | 2 |
| *use comfort controls (e.g. lighting)* | 2 | 3 | 1 | 1 | 1 | 2 |
| *disembark* | 1 | 2 | 1 | 1 | 2 | 2 |
| *get trip status information* | 1 | 3 | 1 | 2 | 2 | 2 |
| | | | | | | |
| *monitor for disembarking site* | 2 | 2 | 1 | 1 | 2 | 2 |
| *use stop signal* | 2 | 3 | 1 | 1 | 1 | 2 |
| *attract attention of driver or attendant* | 1 | 2 | 1 | 2 | 2 | 1 |
| *use emergency equipment* | 2 | 3 | 1 | 1 | 3 | 2 |
| *sit still/ act appropriately* | 1 | 3 | 2 | 2 | 1 | 3 |
| *obey instructions/regulations* | 1 | 2 | 3 | 2 | 1 | 3 |

KEY: 1= probably no problem 2= possibly a problem 3= probably a problem

## Table 3-1: Matrix of Symptoms and Travel Tasks (cont.)

| ***SYMPTOMS*** | *Anger* | *Tremors* | *Psychomotor Retardation* | *Impaired Judgement* | *Anxiety: Non-Social* | *Anxiety: Social* | *Indecisiveness & Reticence* |
|---|---|---|---|---|---|---|---|
| **Pre-Trip Tasks** | | | | | | | |
| *acquire published information* | 2 | 1 | 3 | 3 | 3 | 2 | 3 |
| *read information* | 2 | 3 | 3 | 1 | 3 | 1 | 3 |
| *make a trip plan* | 1 | 1 | 3 | 3 | 3 | 3 | 3 |
| *book tickets* | 2 | 1 | 3 | 2 | 3 | 2 | 2 |
| | | | | | | | |
| *visit travel agent* | 2 | 2 | 3 | 2 | 3 | 3 | 2 |
| *pack (incl. documentation)* | 1 | 2 | 3 | 2 | 2 | 2 | 2 |
| *use phone* | 2 | 2 | 3 | 1 | 2 | 2 | 1 |
| *use phone (automated assistance)* | 2 | 2 | 3 | 1 | 2 | 2 | 1 |
| **Tasks at Terminal** | | | | | | | |
| *buy ticket* | 3 | 1 | 3 | 1 | 2 | 3 | 2 |
| *check/retrieve baggage* | 2 | 1 | 3 | 2 | 2 | 2 | 2 |
| *go through customs* | 3 | 1 | 3 | 3 | 3 | 3 | 3 |
| *select proper gate/bus* | 1 | 1 | 3 | 1 | 2 | 2 | 2 |
| *board (incl. producing ticket, etc)* | 2 | 2 | 3 | 1 | 3 | 2 | 1 |
| | | | | | | | |
| *use visual displays* | 1 | 1 | 2 | 1 | 2 | 2 | 1 |
| *use telidon systems* | 1 | 3 | 3 | 2 | 3 | 2 | 3 |
| *monitor auditory messages* | 1 | 1 | 2 | 1 | 2 | 2 | 2 |
| *find way (e.g. platform)* | 1 | 1 | 3 | 1 | 2 | 2 | 1 |
| *follow verbal instructions* | 1 | 1 | 3 | 2 | 3 | 1 | 3 |
| | | | | | | | |
| *ask passerby for information* | 3 | 1 | 3 | 2 | 3 | 3 | 3 |
| *retain relevant forms (e.g. ticket)* | 1 | 1 | 2 | 1 | 2 | 1 | 1 |
| *wait* | 2 | 1 | 1 | 1 | 3 | 1 | 1 |
| *queue* | 2 | 1 | 1 | 1 | 3 | 1 | 1 |
| *find/report lost possessions* | 3 | 1 | 2 | 2 | 3 | 2 | 3 |
| | | | | | | | |
| *evacuate during emergency* | 1 | 2 | 3 | 3 | 3 | 2 | 3 |
| *use washroom* | 1 | 2 | 3 | 1 | 2 | 1 | 1 |
| *eat/drink/smoke* | 1 | 2 | 3 | 1 | 2 | 1 | 1 |
| *use stairs. escalators, elevators* | 1 | 2 | 3 | 1 | 1 | 1 | 1 |
| *converse socially* | 3 | 2 | 3 | 2 | 3 | 3 | 2 |
| **Tasks Aboard Vehicle** | | | | | | | |
| *find seat* | 1 | 1 | 2 | 1 | 2 | 1 | 2 |
| *stow baggage* | 1 | 2 | 2 | 1 | 1 | 1 | 1 |
| *use comfort controls (e.g. lighting)* | 1 | 3 | 2 | 1 | 1 | 1 | 1 |
| *disembark* | 2 | 1 | 2 | 2 | 2 | 1 | 2 |
| *get trip status information* | 2 | 1 | 3 | 2 | 3 | 3 | 2 |
| | | | | | | | |
| *monitor for disembarking site* | 1 | 1 | 2 | 1 | 2 | 2 | 2 |
| *use stop signal* | 1 | 2 | 3 | 3 | 3 | 1 | 3 |
| *attract attention of driver or attendant* | 2 | 1 | 3 | 2 | 3 | 3 | 3 |
| *use emergency equipment* | 1 | 2 | 3 | 3 | 3 | 1 | 3 |
| *sit still/ act appropriately* | 3 | 2 | 1 | 3 | 3 | 1 | 1 |
| *obey instructions/regulations* | 3 | 1 | 2 | 3 | 3 | 2 | 1 |

KEY: 1= probably no problem 2= possibly a problem 3= probably a problem

## Table 3.1: Matrix of Symptoms and Travel Tasks (cont.)

| *SYMPTOMS* | *Impaired Abstract Thinking* | *Impaired Memory* | *Impaired Concentrat.* | *Tangential Thinking* | *Intellectual Impairment* | *Impaired Speech* |
|---|---|---|---|---|---|---|
| **Pre-Trip Tasks** | | | | | | |
| *acquire published information* | 3 | 2 | 3 | 3 | 3 | 2 |
| *read information* | 3 | 2 | 3 | 3 | 3 | 1 |
| *make a trip plan* | 3 | 3 | 3 | 3 | 3 | 1 |
| *book tickets* | 3 | 1 | 2 | 3 | 3 | 3 |
| | | | | | | |
| *visit travel agent* | 3 | 2 | 2 | 3 | 3 | 1 |
| *pack (incl. documentation)* | 3 | 3 | 3 | 2 | 3 | 1 |
| *use phone* | 3 | 1 | 3 | 3 | 2 | 3 |
| *use phone (automated assistance)* | 3 | 1 | 3 | 3 | 2 | 3 |
| **Tasks at Terminal** | | | | | | |
| *buy ticket* | 2 | 2 | 2 | 2 | 3 | 2 |
| *check/retrieve baggage* | 2 | 2 | 3 | 3 | 3 | 1 |
| *go through customs* | 3 | 3 | 3 | 3 | 3 | 3 |
| *select proper gate/bus* | 2 | 2 | 3 | 3 | 3 | 1 |
| *board (incl. producing ticket, etc)* | 2 | 2 | 2 | 2 | 2 | 1 |
| | | | | | | |
| *use visual displays* | 3 | 2 | 3 | 3 | 3 | 1 |
| *use telidon systems* | 3 | 3 | 3 | 3 | 3 | 1 |
| *monitor auditory messages* | 3 | 3 | 3 | 3 | 2 | 1 |
| *find way (e.g. platform)* | 2 | 2 | 2 | 2 | 3 | 1 |
| *follow verbal instructions* | 3 | 3 | 3 | 3 | 3 | 1 |
| | | | | | | |
| *ask passerby for information* | 3 | 3 | 3 | 3 | 3 | 3 |
| *retain relevant forms (e.g. ticket)* | 2 | 3 | 3 | 2 | 2 | 1 |
| *wait* | 2 | 1 | 1 | 1 | 2 | 1 |
| *queue* | 2 | 1 | 1 | 1 | 2 | 1 |
| *find/report lost possessions* | 3 | 3 | 3 | 3 | 3 | 3 |
| | | | | | | |
| *evacuate during emergency* | 3 | 1 | 3 | 3 | 3 | 1 |
| *use washroom* | 1 | 1 | 2 | 2 | 1 | 1 |
| *eat/drink/smoke* | 1 | 1 | 2 | 2 | 1 | 1 |
| *use stairs. escalators, elevators* | 1 | 1 | 1 | 1 | 1 | 1 |
| *converse socially* | 3 | 2 | 3 | 3 | 2 | 3 |
| **Tasks Aboard Vehicle** | | | | | | |
| *find seat* | 1 | 2 | 2 | 2 | 2 | 1 |
| *stow baggage* | 1 | 1 | 2 | 2 | 2 | 1 |
| *use comfort controls (e.g. lighting)* | 1 | 1 | 2 | 2 | 2 | 1 |
| *disembark* | 2 | 1 | 2 | 2 | 2 | 1 |
| *get trip status information* | 3 | 3 | 3 | 3 | 3 | 2 |
| | | | | | | |
| *monitor for disembarking site* | 2 | 2 | 3 | 3 | 3 | 1 |
| *use stop signal* | 3 | 1 | 3 | 3 | 3 | 1 |
| *attract attention of driver or attenda* | 3 | 1 | 3 | 3 | 2 | 3 |
| *use emergency equipment* | 3 | 1 | 3 | 3 | 3 | 1 |
| *sit still/ act appropriately* | 3 | 1 | 3 | 3 | 1 | 1 |
| *obey instructions/regulations* | 3 | 2 | 3 | 3 | 3 | 1 |

KEY: 1= probably no problem 2= possibly a problem 3= probably a problem

## Table 3.1: Matrix of Symptoms and Travel Tasks (cont.)

| *SYMPTOMS* | *Appetite Changes* | *Problems of Elimination* | *Nausea & Vomiting* | *Irregular Sleep Patterns* |
|---|---|---|---|---|
| **Pre-Trip Tasks** | | | | |
| *acquire published information* | 1 | 1 | 1 | 1 |
| *read information* | 1 | 1 | 1 | 1 |
| *make a trip plan* | 1 | 1 | 1 | 1 |
| *book tickets* | 1 | 1 | 1 | 1 |
| | | | | |
| *visit travel agent* | 1 | 1 | 1 | 1 |
| *pack (incl. documentation)* | 1 | 1 | 1 | 1 |
| *use phone* | 1 | 1 | 1 | 1 |
| *use phone (automated assistance)* | 1 | 1 | 1 | 1 |
| **Tasks at Terminal** | | | | |
| *buy ticket* | 1 | 1 | 1 | 1 |
| *check/retrieve baggage* | 1 | 1 | 1 | 1 |
| *go through customs* | 1 | 1 | 1 | 1 |
| *select proper gate/bus* | 1 | 1 | 1 | 1 |
| *board (incl. producing ticket, etc)* | 1 | 1 | 1 | 1 |
| | | | | |
| *use visual displays* | 1 | 1 | 1 | 1 |
| *use telidon systems* | 1 | 1 | 1 | 1 |
| *monitor auditory messages* | 1 | 1 | 1 | 1 |
| *find way (e.g. platform)* | 1 | 1 | 1 | 1 |
| *follow verbal instructions* | 1 | 1 | 1 | 1 |
| *ask passerby for information* | 1 | 1 | 1 | 1 |
| *retain relevant forms (e.g. ticket)* | 1 | 1 | 1 | 1 |
| *wait* | 1 | 2 | 1 | 1 |
| *queue* | 1 | 1 | 1 | 1 |
| *find/report lost possessions* | 1 | 1 | 1 | 1 |
| *evacuate during emergency* | 1 | 1 | 1 | 1 |
| *use washroom* | 1 | 2 | 1 | 1 |
| *eat/drink/smoke* | 1 | 1 | 1 | 1 |
| *use stairs. escalators, elevators* | 1 | 1 | 1 | 1 |
| *converse socially* | 1 | 1 | 1 | 1 |
| **Tasks Aboard Vehicle** | | | | |
| *find seat* | 1 | 1 | 1 | 1 |
| *stow baggage* | 1 | 1 | 1 | 1 |
| *use comfort controls (e.g. lighting)* | 1 | 1 | 1 | 1 |
| *disembark* | 1 | 1 | 1 | 1 |
| *get trip status information* | 1 | 1 | 1 | 1 |
| *monitor for disembarking site* | 1 | 1 | 1 | 1 |
| *use stop signal* | 1 | 1 | 1 | 1 |
| *attract attention of driver or attendant* | 1 | 1 | 1 | 1 |
| *use emergency equipment* | 1 | 1 | 1 | 1 |
| *sit still/ act appropriately* | 1 | 1 | 1 | 1 |
| *obey instructions/regulations* | 1 | 1 | 1 | 1 |

KEY: 1= probably no problem 2= possibly a problem 3= probably a problem

# 4. ANALYSIS OF LEGAL ISSUES

This chapter is a précis of a document produced by Shari Stein, LL.B. for this project (Stein, 1989) with some clarifications and elaboration. The précis was written by Behavioural Team staff and Shari Stein is in no way responsible in the event of inaccuracies in this précis. The analysis of legal issues covers:

- laws and government initiatives relating to transportation of disabled persons
- role of the Charter of Rights and Freedoms in promoting access to public transportation
- other human rights laws

## 4.1 Case Law and Government Initiatives Related to Transportation

### 4.1.1 Case law

There is no leading case-law that focuses on the transportation of mentally disabled persons. However, there are cases in the area of physical disability which can be broadly interpreted to apply to disability in general.

Two cases in point are Clariss Kelly versus VIA (1980) and Ruth Adelia versus Air Canada (1986). The Kelly case arose out of the refusal of VIA, on the grounds she was a wheelchair user, to issue a ticket to Kelly unless she was accompanied by an attendant. Several conclusions on this case are regarded as a breakthrough for physically disabled persons. These include:

- Self-reliant disabled wheelchair users should be allowed to travel without an attendant.

- The determination of self-reliance is largely left to the wheelchair user.

The conclusions about self-determination of self-reliance are not directly applicable to mental disability because the competency of the person to make that determination complicates the issue.

Other conclusions that can be interpreted to apply to mentally disabled persons are:

- attendants should be able to travel free

- no waiver of liability should be imposed

- carrier staff might be expected to provide additional reasonable services (e.g. finding a seat)

- the foregoing conclusions could be used to apply to modes other than that in the case in question

The Adelia case also arose because a carrier required a wheelchair user to travel with an attendant. The issue revolved around who makes the determination of self-reliance. The ruling favoured self-determination of self-reliance but some ambiguity remains about the authority of carriers to refuse carriage.

### 4.1.2 Bill C-131 (aka Sections 63.1 to 63.4 of the National Transportation Agency, 1987)

Bill C-131 vests authority in the National Transportation Agency to design regulations to remove "undue obstacles" for disabled people. This bill is an important tool for systematic barrier removal; there is scope to implement several beneficial regulations including:

- self-determination of self-reliance
- no additional fares for attendants or extra seats
- no waivers of liability
- provision of assistance by carrier

However, there are several limitations to Bill C-131 including:

- permissive rather than mandatory authority
- scope for exemptions in applications of regulations
- lack of definition for key terms such "undue" (i.e. undue obstacle)

### 4.1.3 Other federal government initiatives

Some significant federal government initiatives are:

- creation of the Advisory Committee on Transportation of the Handicapped in 1979 by the Minister of Transportation (and subsequently, the Transportation of Disabled Persons Implementation Committee (1985) and the Advisory Committee on Accessible Transport (1990).

- publication of *Obstacles Report* in 1981 by the Special Parliamentary Committee on the Disabled and the Handicapped.

- Ministry of Transportation publication of *Policy on Transportation of Disabled Persons* (1984).

- publication of Air Accessibility Standards *for Disabled and Elderly Persons* (1984) (aka Ratushny Report).

- Transportation of Disabled Persons Program (1986).

## 4.2 Anti-Discrimination Laws

### 4.2.1 Canadian Charter of Rights and Freedoms

The Charter is the ultimate Canadian anti-discrimination law. Section 15 specifically includes mental disability under the scope of protection from discrimination. Section 15 of the Charter could conceivably be used to redress discriminatory practices of not only the legislative arm of the government but also the executive and administrative arms as well.

To date there is no major Charter case-law that addresses specifically disability and transportation. The one case under Section 15 to reach the Supreme Court was Andrews versus Law Society of British Columbia, a matter concerning citizenship. This case laid down principles useful for interpreting Section 15 claims in matters pertaining to disability. The outcome of this case is seen as advantageous for disabled persons. Pertinent conclusions include:

- equality does not mean treating all people the same
- systemic or "adverse effect" discrimination is covered
- rights are not absolute - they are subject to "reasonable" limits

### 4.2.2 Application of Charter arguments to transportation

The application of Charter arguments is reviewed in the following hypothetical cases:

- allowing the attendant of a person with Alzheimer's to fly free
- making local transit accessible to a person with a learning disability
- making a person with a learning disability eligible for parallel transit

In each case, arguments of the following types could be used:

- this case is within the jurisdiction of the Charter
- the practice in question is discriminatory
- the proposed solution is reasonable accommodation
- the practice in question infringes upon Section 15

Counter-arguments would likely be made on the basis of cost. These could be rebutted using examples of existing such services. It is not clear how the Charter would be interpreted in a case such as this. The last two hypothetical cases raise issues not yet addressed by case-law (e.g. implementation of positive measures).

In the parallel transit case, there would likely be some argument about whether expanding eligibility criteria constitutes affirmative action rather than reasonable accommodation. Cost would also likely be raised as a "reasonable limit" on a right under Section 15.

## 4.3 Other Human Rights Legislation

All Canadian provinces except Alberta now prohibit discrimination on the basis of "mental disability" or "mental handicap."

### 4.3.1 Differences between the Canadian Charter and provincial human rights laws

Human rights laws can provide similar protection to Section 15 with some important differences including:

- Charter complaints are restricted to government activity while human rights laws cover both public and private activity.
- The Charter involves the courts while human rights laws are heard by the relevant commission.
- Affirmative action is endorsed by both the Charter and human rights laws though only the latter provide express mechanisms for assisting in establishing such programs.
- Amending the Charter is a complex process while human rights laws can be amended through the normal political process.

### 4.3.2 The duty to accommodate

Though critical for eliminating discrimination, the duty to accommodate is not yet accepted by all courts as implicit in human rights protection.

### 4.3.3 Human Rights case law

As with the Charter, in major human rights case-law there are only transport accessibility cases dealing with physical disabilities. Three are noteworthy. The first is a complaint to the Canadian Human Rights Commission regarding the requirement that a person accompanying a wheelchair user on parallel transit pay an extra fare. This case, which was resolved in favor of the plaintiff, shows the effectiveness of the Commission and the overlap between human rights law and the Charter.

The second case involved a person with uncontrolled epilepsy wanting either eligibility to parallel transit or admission of an attendant free of charge to conventional transit. The case, which is currently under investigation by the Ontario Human Rights Commission, will test out its new accommodation guidelines in the context of transportation and disability.

The final case, settled in favour of the plaintiff, involved the requirement for theatres to provide viewing space for wheelchair users in the regular viewing area.

### 4.4 Conclusions

The denial of access is discrimination and the pursuit of access is an expression of rights. In the 1980s, mental disability has come under the coverage of the constitution and of most human rights law. In the 1990s, advances will be made in the legal channels developed in the 1980s.

# 5. DEMOGRAPHIC ANALYSIS

## 5.1 Purpose and Overview

The purpose of this chapter is to define the target market and to estimate its prevalence using demographic information. Three topics are covered:

- issues in the demography of mental disability
- types of demographic data
- prevalence estimates from the Statistics Canada Health and Activity Limitation Survey (HALS).

## 5.2 Demographic Issues Related to Mental Disability

There are inherent problems in collecting valid and reliable data about who does and does not have a mental disability. Some of these are:

- **Insidious nature**: With some mental disabilities, especially those associated with aging, the onset may be insidious. This limits the usefulness of demographic analyses based on onset and duration information.

- **Veridicality of self-report**: Some mental disabilities interfere with insight into one's condition. This poses limitations on the usefulness of self-report data.

- **Cultural factors**: What is considered a mental disability is related to cultural factors. Therefore data from other cultures are not as useful as for other demographic indicators.

- **Progress in mental health disciplines**: Changing notions about mental disability or record-keeping practices decrease the usefulness of older information. For example, diagnostic criteria and categories change over time.

- **Lack of consensus**: Differing theoretical orientations among researchers studying the same disorders leads to variation in estimates.

- **Requirements of transportation research**: Information on mental disability is typically geared to health-related needs such as public health planning, treatment evaluation, and identification of disease etiology. Requirements for these uses may differ from those of transportation research. For example, disorders which may be of clinical interest may have no implication for transportation usage and vice versa.

• **Low prevalence**: With mental disabilities of relatively low prevalence, a large scale study is required for reliable estimates or only a course grained analysis is possible. Thus community-level and sometimes even provincial breakdowns may be beyond a realistic-sized study.

## 5.3 Types of Estimates

Besides inherent problems in studying mental disabilities, differences between disciplines or methodologies complicate the task. Some differences between methodologies include:

- basis of estimate: expert versus data
- clinical criterion versus self-report
- importance placed on representative sampling

Some types of studies which provide estimates of the prevalence of mental disability are discussed in turn.

**Demographic estimates**: Demographic studies emphasize accuracy and precision through the use of sophisticated sampling and verification techniques, use and development of objective indicators and descriptors, and collection of data across widespread or at least carefully described geographical areas. However, these studies are typically less sophisticated in defining mental disability; they are likely to rely strictly on self-report, rather than on independent verification of mental disability. The census survey is the most well-known type of demographic study.

**Epidemiological estimates**: Epidemiological studies seek to establish the etiology or control of disease. Paramount in epidemiological studies are the accurate identification and classification of cases. Compared to demography, epidemiology relies less on large scale surveys and accurate and precise estimation. As well, hospital records, rather than the general population, are some of the data of interest.

**Sociological studies**: Some sociological studies use demographic or epidemiological methods to identify causal links between mental illness and variables such as socioeconomic status, marital status, gender, and ethnicity. A typical concern would be determining whether better mental health in married people is because: 1) marriage increases mental health or 2) people with high mental health tend to get married more. Such studies are not too concerned with accurate estimates of mental disability; rather, the methodology emphasizes making valid comparisons between two or more groups.

**Psychiatric/Psychological estimates**: Besides using methodologies overlapping those discussed previously, estimates presented in the *Diagnostic* *and Statistical Manual of Mental Disorders*. Based on the judgments of clinical and research experts, estimates of the prevalence of specific clinical disorders is presented. However, these are only qualitative estimates (e.g. Prevalent, Rare, No Information Available).

**Special interest group estimates**: Organizations that provide services to persons with mental disabilities sometimes cite estimates of prevalence. For example, Friends of Schizophrenics estimates 1 in 100 Canadians have schizophrenia. The basis and validity of these estimates varies with the source. In this case, the estimate is based upon World Health Organization figures.

### 5.4 Health and Activity Limitation Survey (HALS)

HALS is the largest-scale, most up-to-date Canadian source of data on the prevalence of mental disabilities. The survey was undertaken by Statistics Canada in response to the Special Parliamentary Committee on the Disabled and the Handicapped (1981). The survey was administered starting in 1986 and the highlights of the survey data were released in May, 1988. Additional analyses continue to be made available as of September, 1989.

All types of disabilities are covered and transportation is one of the nine activities examined. The sample was selected based on screening questions in the preceding census and respondents from HALS are cross listed with their census data.

Geographic breakdowns of data are generally available to community level, but are limited by reliability of the data. In the case of mental disability, provinces are usually the smallest geographic unit for which data are consistently reported.

Finally, functional limitations, rather than the disorders themselves are the focus of the survey. For this reason, particular disorders are identified only if they are the cause of a functional limitation.

### 5.5 HALS Analysis: Definition of the Target Market

These analyses are based on data from a special computer run obtained through the Transport Development Centre and from a Statistics Canada Report entitled Selected Data For Canada, Provinces, and Territories (Report # 82-A09, 1988). The printout of the data can be found in a separate document (Behavioural Team, 1990).

### 5.5.1 Canadians in the target market

The HALS analyses in this report are concerned with the following segment of the Canadian population: adults (over 14 years old) with mental disabilities not living in institutions. The following table shows this target market as a subset of the whole population.

**Table 5.1: Target Market as a Subset of the Population**

| | |
|---|---|
| All Canadians | 25.0 million |
| All Canadian adults | 19.7 million |
| Adults with a disability | 3.0 million |
| Adults with a disability and living in a household | 2.8 million |
| Adults with a mental disability living in a household | 741,000 |

The table shows that the target market represents approximately 3% of the Canadian population. Persons under 15 years and those in institutions were excluded from the target market because they would not typically travel independently using public transportation.

### 5.5.2 Mental disability versus other disabilities

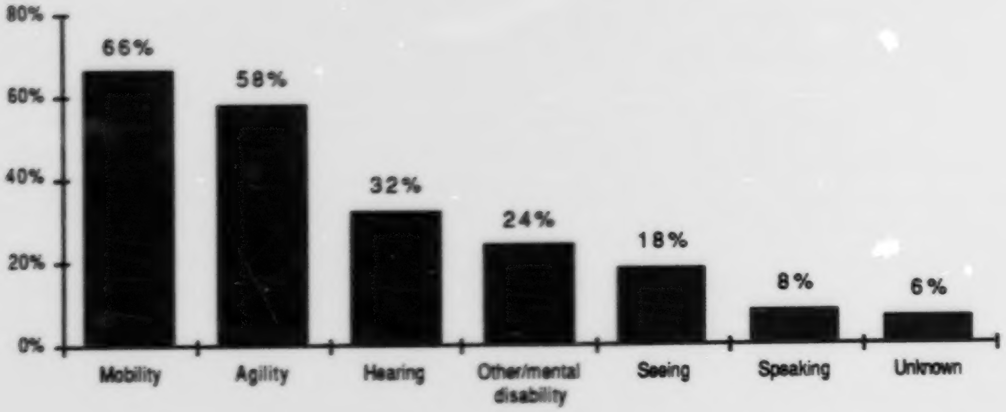
Disabilities are grouped in HALS as follows:

- Mobility
- Seeing
- Speaking
- Unknown
- Agility
- Hearing
- Other (mental disability)

The HALS category of Other corresponds closely to what is referred to in this study as *mental disability*. The specific disorders included under this umbrella can be found in a separate document (Behavioural Team, 1990); most of the disorders are also listed in Figure 5.5.

The following figure compares the prevalence of various classes of disability.

**Figure 5.1: Types of disabilities reported by adults with disabilities**



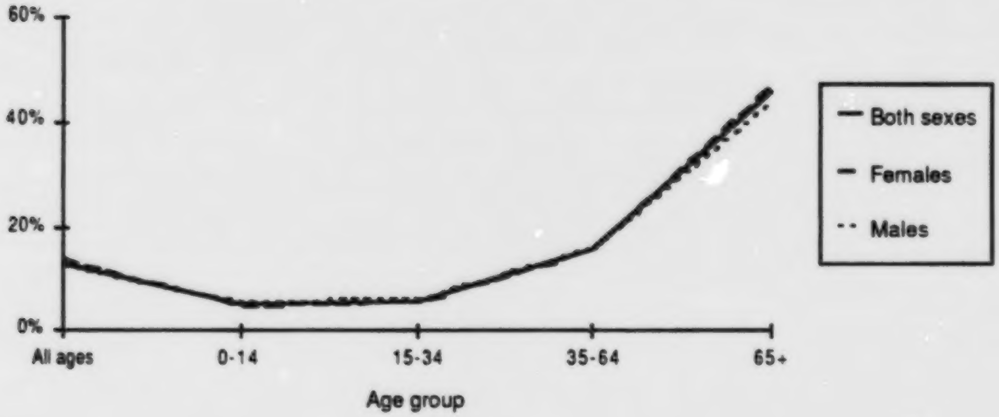
This figure shows that mental disability is reported by 24% of disabled adults. It is important to remember there are some problems in comparing prevalence of disabilities. For example, there may be a tendency for mental disabilities to be under-reported compared to other disabilities for reasons such as social stigma and the lack of simple definitional criteria.

A second factor to keep in mind is that many people reporting a mental disability likely have other disabilities as well. Among disabled persons in the HALS study, over half had multiple disabilities; some had 5 or more. Therefore, in reports of problems using public transportation, care should be taken in attributing the problem to the mental disability.

### 5.5.3 Differences between age groups and genders

The pattern of disability across age groups and gender is shown in the next figure.

Figure 5.2: Disability rate for each age group and gender



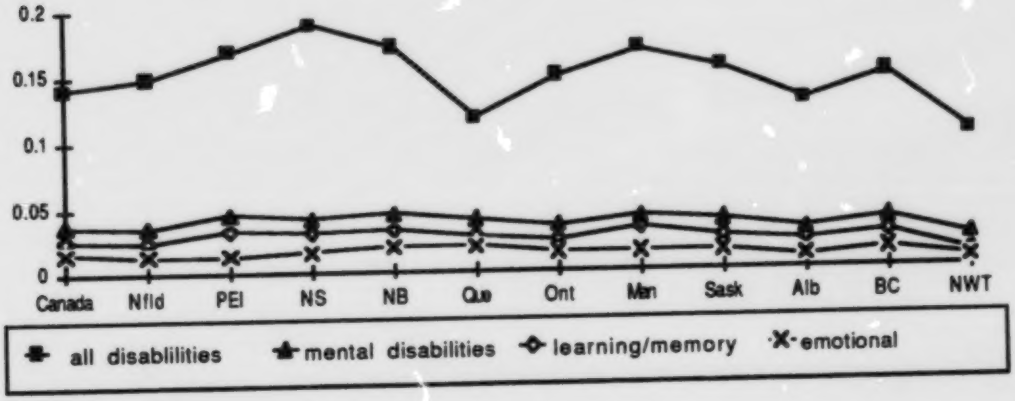
Note the sharp rise in the disability rate among persons aged 65 years and older. Although this chart shows only overall disability, this pattern is consistent with data regarding mental disorders; some disorders, such as Alzheimer's, tend to appear predominantly in older people.

There was no difference found between males and females in overall disability rate. However, there are some gender-specific patterns for particular mental disorders.

### 5.5.4 Mental disability across provinces

Prevalence of all types of disability are compared to that of mental disability alone in the next figure. (Note: data from the Yukon were too few to report).

**Figure 5.3: Prevalence of overall disability, mental disability, and types of mental disability among adults**



The rates of disability vary between 10% and 19% across provinces with a national average of about 14%. The rates for mental disability range mostly between 2% and 4.5% and track the total disability rates across provinces rather closely. This means that provinces with high total disability rates also tend to have high rates for mental disability.

### 5.5.5 Types of mental disabilities

Until now, *mental disability* has been treated as a single category. More detailed analyses can be made by dividing this category into:

- learning disability
- psychiatric disability or mental health problems
- developmental delay or mental handicap

Unfortunately, it is difficult to estimate prevalence of these groups using HALS. The data provided to Behavioural Team exclude persons who have a mental disorder but no functional limitation, so the data tend to underestimate the true prevalence of disabilities. To identify all the cases of a disorder, a record-by-record breakdown of the HALS data would be required.

The relevant HALS questions about functional limitations pertaining to mental functioning ask about:

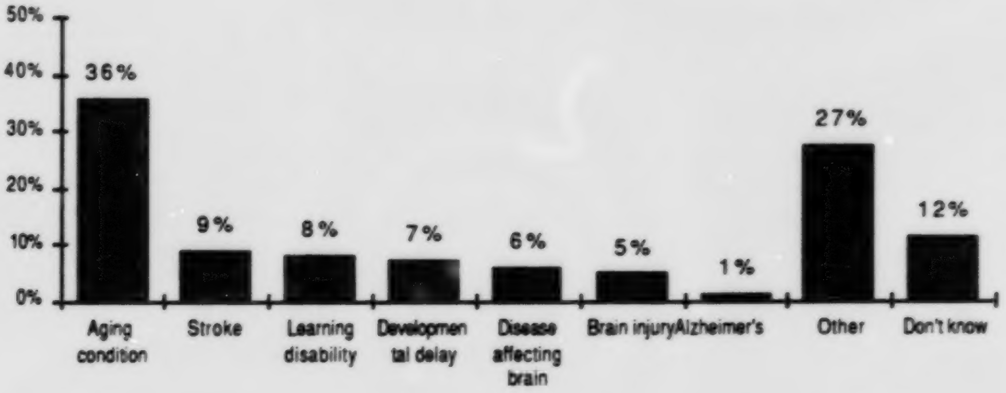
- ongoing problems learning or remembering
- psychological or emotional problems limiting activities such as travel

The chart in the previous section shows the prevalence of these functional limitations. This chart shows that 2.6% of Canadian adults (or 500,000 people) have problems with learning or memory and 1.6% of adults (or 312,000 people) have emotional or psychological difficulties limiting activities such as travel.

## Causes of Learning or Memory Problems

Causes of learning/memory problems are shown in the following graph.

**Figure 5.4: Cause of problem reported by adults with learning or memory difficulties**

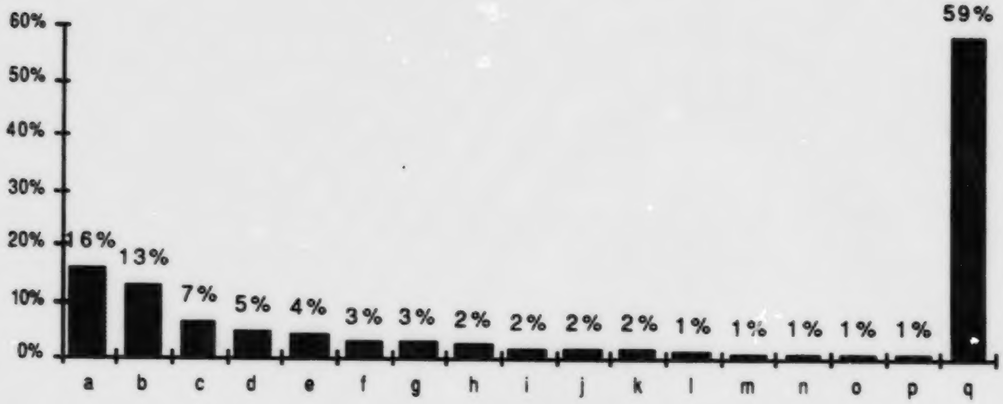


Age-related conditions were mentioned most often. This is consistent with the disproportionally high rate of disability among persons 65 and older which was discussed earlier. The *Other* and *Don't Know* categories were the next most prevalent; this reflects the difficulties in classifying mental disorders. Learning disabilities and mental handicaps accounted for 8% and 7%, respectively, of learning or memory problems. There was no explicit code for emotional or psychiatric disorders, although these likely comprise some of the *Other* category responses.

## Causes of Psychological or Emotional Problems

For functional limitations due to emotional or psychiatric difficulties, the most prevalent causes were personality disorders (16%) and mental handicaps (7%), as shown in the following figure.

**Figure 5.5: Cause of problem reported by persons with psychological or emotional functional limitations**



The categories assigned to the codes in the graph are as follows:

a=Personality disorders
b=Other ill-defined causes of morbidity
c=Unspecified mental retardation
d=Depressive disorder, not otherwise classified depression
e=Arthritis/rheumatism
f=Stroke
g=Aging
h=Epilepsy
i=Specific delays in development
j=Schizophrenic psychoses
k=Ill-defined descriptions and complications of heart disease
l=General symptoms
m=Acute reactions to stress
n=Other cerebral degenerations
o=Chromosomal abnormalities-e.g. Down's Syndrome
p=Other conditions of the brain
q=All other conditions...

Comparing prevalence of specific disorders is problematic. Many categories are vague (e.g. other conditions of the brain) and the Other category accounts for 59%, more cases than all the other causes combined.

### Summary

In sum, the following can be said about the three main classes of disorders:

- Learning disabilities account for 8% of learning or memory problems and were not a specified cause of emotional/psychological difficulties limiting activities such as travel.

- Mental handicaps account for 7% of learning or memory problems and about the same percentage of emotional/psychological difficulties limiting travel and related activities.

- Psychiatric disorders were not named as a cause of learning/memory problems although they might be included in categories such as *conditions related to aging*. Personality disorders, one type of psychiatric disorder, was the most prevalent individual cause (16%) for emotional/psychological problems limiting travel or related activities. Other categories undoubtedly contain other psychiatric disorders.

## 5.6 HALS Analysis: Transportation services

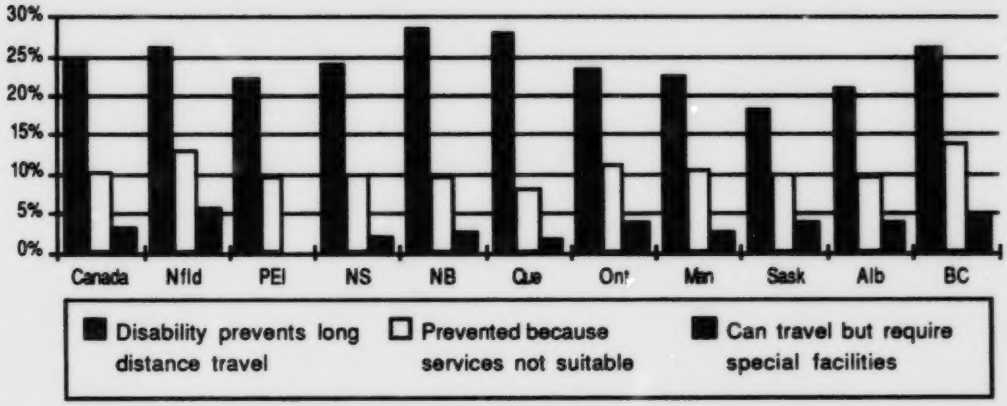
### 5.6.1 Prevented from traveling due to condition

The following graph shows the number of persons who are:

- prevented from taking long distance trips due to their condition
- prevented because transportation services are not suitable
- can travel, but require special facilities or services

(Note: data from the Territories were too few to report).

Figure 5.6: Prevelance of disability preventing long distance travel among adults with a mental disability



The graph indicates that 25% of adults with mental disabilities cannot travel due to their disability; of these, almost half cannot travel because of the lack of special services or facilities. Among the 75% who can travel long distance, 4% require special services or facilities.

### 5.6.2 Problems with particular modes

The prevalence of problems was examined across modes and the results are shown in the following table.

**Table 5.2: Prevalence of difficulties among adults who are not prevented from traveling due to mental disability**

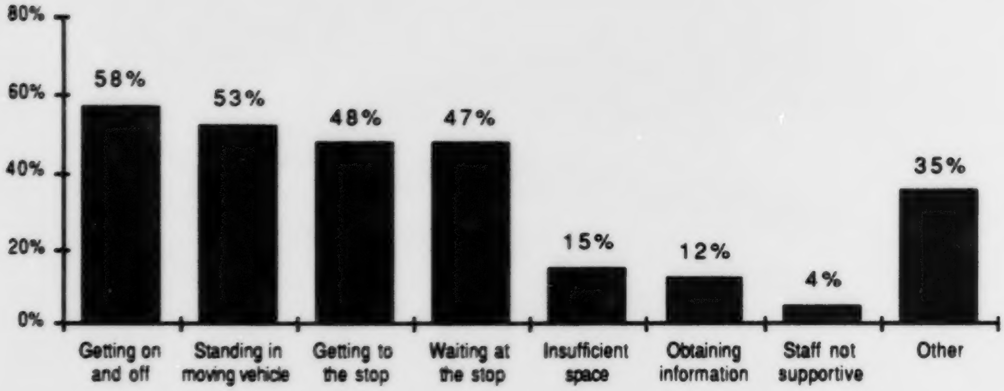
| | |
|---|---|
| airplane | 87% |
| inter-city bus | 80% |
| train | 73% |
| local public transit | 24% |

Prevalence of problems was highest for air, followed by inter-city bus, and train. Rates for local transit were considerably lower than for any long distance modes. Across provinces, the rate of problems was consistently in the 65-90% range for long distance modes while it was in the 21-27% range for local public transit.

### 5.6.3 Types of problems

The chart below shows problems experienced using local transit.

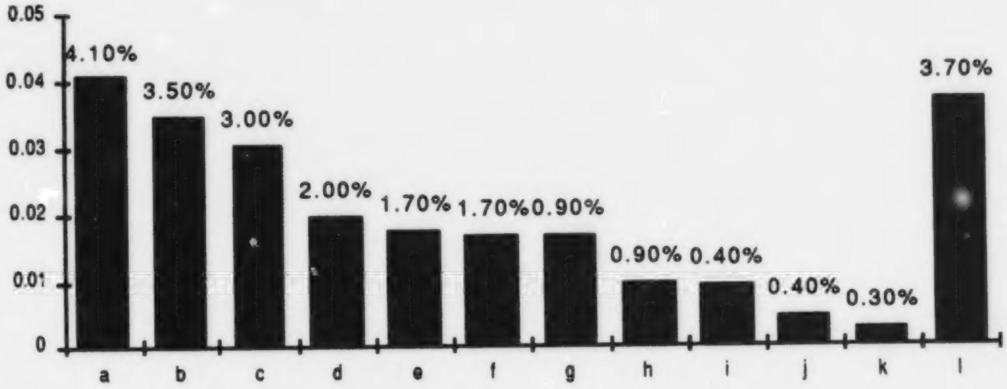
**Figure 5.7: Problems encountered by persons reporting difficulties using local transit**



The four most prevalent causes seem to be related to mobility (e.g. getting on and off). These findings are consistent with the fact that many disabled persons have more than one functional limitation. Unfortunately, the general nature of the categories makes it difficult to pinpoint difficulties of a cognitive or emotional nature.

The findings are similar with long distance travel (all modes combined). Mobility-related factors (e.g. boarding/disembarking) are the categories mentioned most often as shown in the chart below.

**Figure 5.8: Problems encountered by all adults with mental disabilities using long distance public transportation**



The codes for the types of problems in the preceding graph are:

a=boarding or disembarking
b=moving around terminal
c=flight/ride aggravates condition
d=hearing announcements
e=seating on board
f=seeing signs or notices
g=washroom facilities
h=transporting wheelchair or other aids
i=transport to/from the terminal
j=staff unsupportive
k=carrier rules or regulations
l=other

### 5.6.4 Transportation as a barrier in completing activities

What role does inadequate transportation have in preventing persons from completing activities? An indication of the answer can be provided by the HALS question which ask respondents to select among eight reasons they were prevented from pursuing leisure activities. The results are as follows:

- number of persons for whom transportation was **one reason** they did not participate in leisure activities: 34,820 respondents
- number of persons for whom it was the **only reason**: 3,084 respondents

These results show that inadequate transportation is a **contributory factor** ten times more often than it is the **only reason** preventing people from pursing leisure activities.

# 6. SURVEY

## 6.1 Purpose and Overview

An important purpose of this study is to collect data about transportation difficulties directly from individuals with cognitive or emotional disabilities. This survey was designed mainly to corroborate the findings of other analyses in this study.

The survey is comprised of 21 questions covering:

- Demographic information
- Nature of disabilities and functional limitations
- Difficulties in the use of local public transit
- Difficulties in the use of long distance public transportation

Both English and French survey forms, and descriptive statistics for each question can be found in Appendix A. Descriptive statistics are presented in a separate document (Behavioural Team, 1990).

## 6.2 Sample and Demographics of Respondents

As per the study proposal, 500 surveys were distributed to a sample drawn from every province and territory. A further 200 surveys were distributed to compensate for the possibility of a low return rate due to the special nature of the population in question. The mailing lists of four organizations were used to distribute the survey: Canadian Mental Health Association, Canadian Association For Community Living/People First, Learning Disabilities Association of Canada, and Alberta Friends of Schizophrenics. Some surveys were sent directly to respondents and others to provincial and local chapters for distribution to their members. As with the HALS analysis, only persons older than 15 years of age and not living in institutions were included in the sample.

Surveys were returned by 117 respondents, a 17% response rate. This return rate is not appreciably different from comparable surveys of the general population which is fortunate considering the low literacy levels of some persons in the sample.

Some basic demographic information about the respondents is shown in the following tables and graphs.

## Gender

Respondents were divided roughly equally along gender lines.

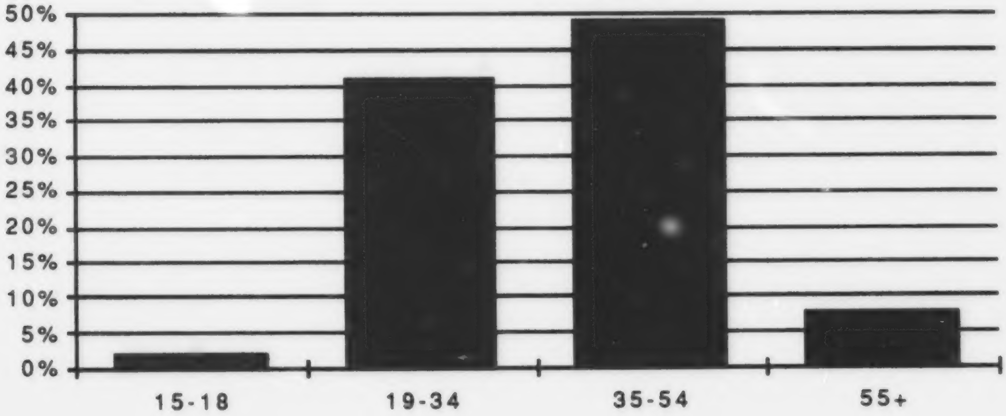
**Table 6.1: Gender of Respondents**

| | |
|---|---|
| Male | 43% |
| Female | 57% |

## Age

The chart below shows respondents' ages covered the range of interest although most were between 19 and 54 years old.

Figure 6.1: Age of respondents



## Community Size

The chart below shows respondents were from all community sizes, though primarily from mid-size communities.

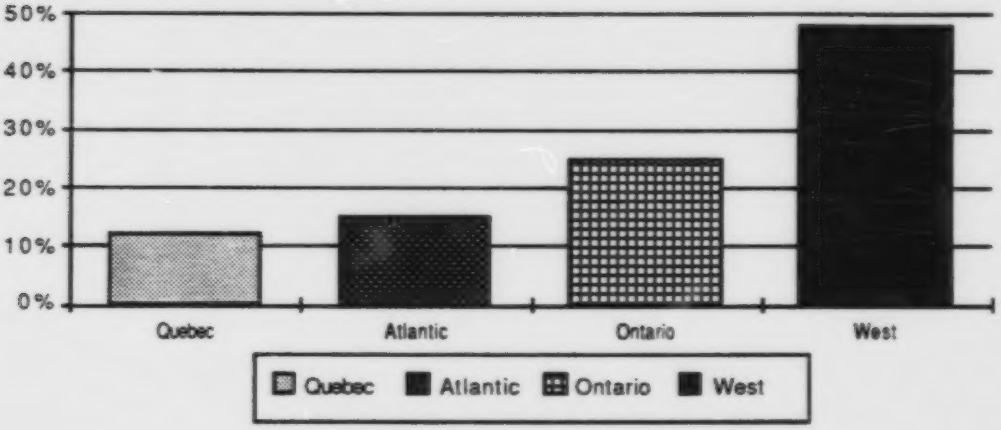
**Table 6.2: Community Size**

| | |
|---|---|
| less than 10,000 | 14% |
| 10,000-99,999 | 39% |
| 100,000-999,999 | 30% |
| over 1,000,000 | 12% |
| don't know | 5% |

**Place of Residence**

People responded from all regions of the country as shown in the following graph. The preponderance of persons from the West is due to the distribution of Friends of Schizophrenics surveys only in Alberta.

Figure 6.2: In which province or territory do you live?



Two features of these data have implications for interpreting the results. First, persons aged 55 and older are somewhat under-represented; they comprise 8% of the sample compared to 25% expected in a perfectly representative sample. The higher rate of disability among senior citizens found in the HALS study suggests this sample might tend to under estimate the true prevalence of travel difficulties.

The second consideration is the use of particular organizations for distribution of the survey. Although they were selected to cover the range of mental disabilities, not all types of mental disabilities are represented in the sample.

## 6.3 Nature of Disability or Functional Limitations

The analyses that follow include a breakdown into three categories: mental health, learning disability, and mental handicap. Responses from the Canadian Mental Health Association and Friends of Schizophrenics are combined under the Mental Health umbrella.

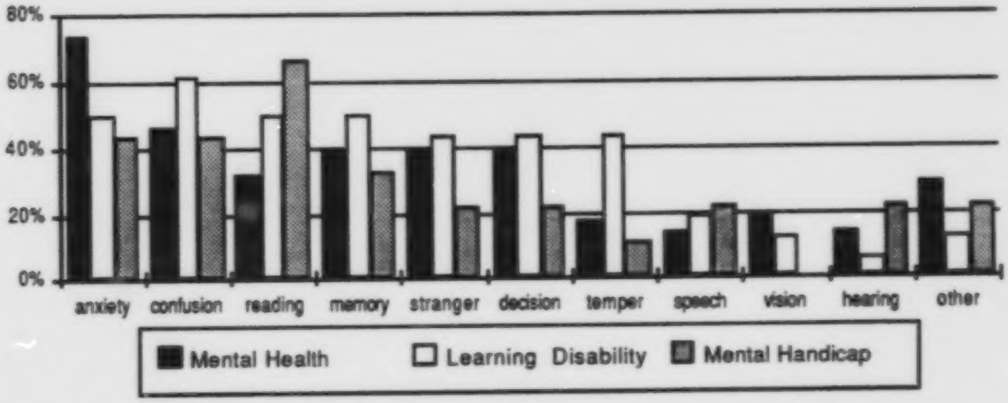
Here the three groups are examined in terms of:

- functional limitations and specific disorders
- HALS screening questions included in this survey
- overall prevalence of persons with travel difficulties
- use of a caregiver when traveling
- holding a driver's licence

### Types of Functional Limitations and Disorders

Functional limitations can be grouped as cognitive or socio-emotional. The following graph presents the prevalence of functional limitations that create travel difficulties.

**Figure 6.3: Functional limitations causing travel difficulties among respondents who reported difficulties**



Anxiety, an emotional problem, is the most prevalent (63%); however, emotional problems, as a class, are not more prevalent than cognitive ones (e.g. reading, memory).

There are several predictable differences between groups. For example, anxiety is most prevalent among the mental health group and reading problems are least prevalent. Among the relatively few persons who identified a specific disorder, the most prevalent response was schizophrenia (9 respondents) followed by depression (5 respondents).

### HALS Screening Questions

This survey included two HALS questions about functional limitations inquiring about:

1) problems with the ability to remember or learn

2) limitations of travel activities due to an emotional, psychological, nervous, or mental health condition or problem.

The following table shows the proportion that responded positively to one or both of these questions.

**Table 6.3: Responses to HALS Screening Questions**

**Percents of Row Totals**

| | memory | emotion | both | neither | Totals: |
|---|---|---|---|---|---|
| Mental health | 13.16% | 15.79% | 22.37% | 48.68% | 100% |
| Learning dis... | 36% | 0% | 20% | 44% | 100% |
| Mental handi... | 35.71% | 0% | 14.29% | 50% | 100% |
| Totals: | 20.87% | 10.43% | 20.87% | 47.83% | 100% |

This table shows that the "emotion" question provides some basis for discriminating between the groups. Persons from all groups responded to the "learn/memory" question or to both but all persons who responded YES only to the "emotion" question were from the mental health group.

### Prevalence of Mental Disability Resulting in Travel Difficulties

The overall prevalence of travel problems due to a disability is shown below.

**Table 6.4: Special difficulties in local or long distance travel**

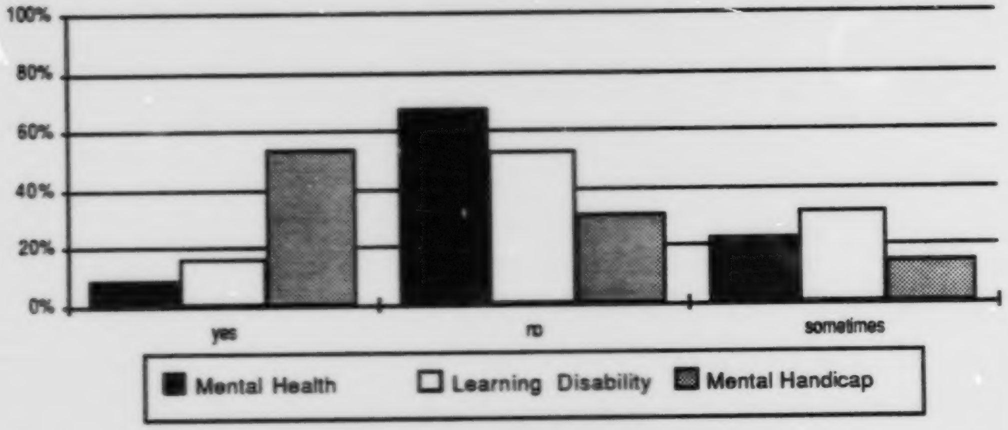
| | |
|---|---|
| Mental Health | 39% |
| Learning Disabilities | 56% |
| Mental handicap | 62% |

The rate for the mental health respondents was markedly lower than for other groups.

### Need for a Caregiver

The need for a caregiver is shown below.

Figure 6.4: Travel with caregiver



The biggest difference was between the mental handicap group and the other groups.

### Drivers Licence

Finally, the proportion of respondents who hold a driver's licence is shown below.

**Table 6.5: Proportion with a Drivers Licence**

| | |
|---|---|
| Mental health | 53% |
| Learning disability | 71% |
| Mental handicap | 23% |

## 6.4 Travel Patterns and Use of Public Transportation

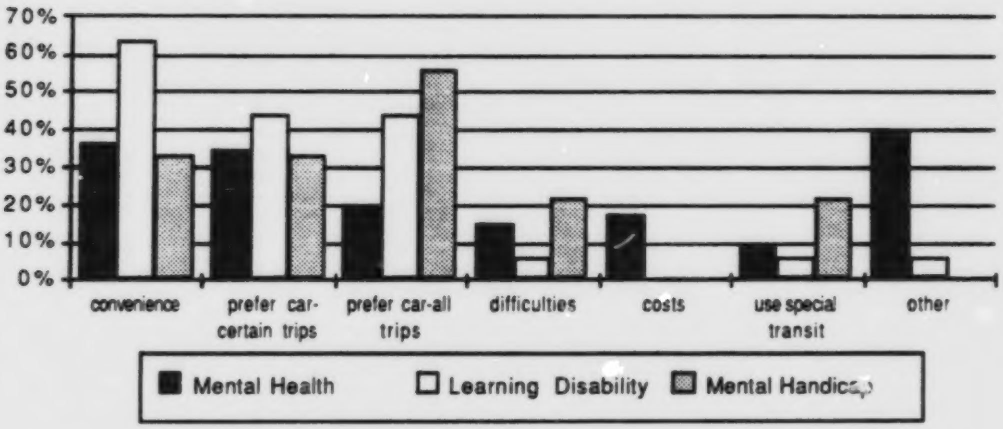
These analyses explore reasons respondents do not use public transportation more often to meet their travel needs.

### Local Transit

On average, respondents took 40 local trips during the past 30 days. Of these 47% were taken using local public transit.

Of all the respondents, 23% indicated they use public transit for all their travel needs. Of those who don't, reasons why are shown in the graph below (Note: Categories with 0% responses are indicated with the absence of a bar).

**Figure 6.5: Reasons public transit is not used more often**



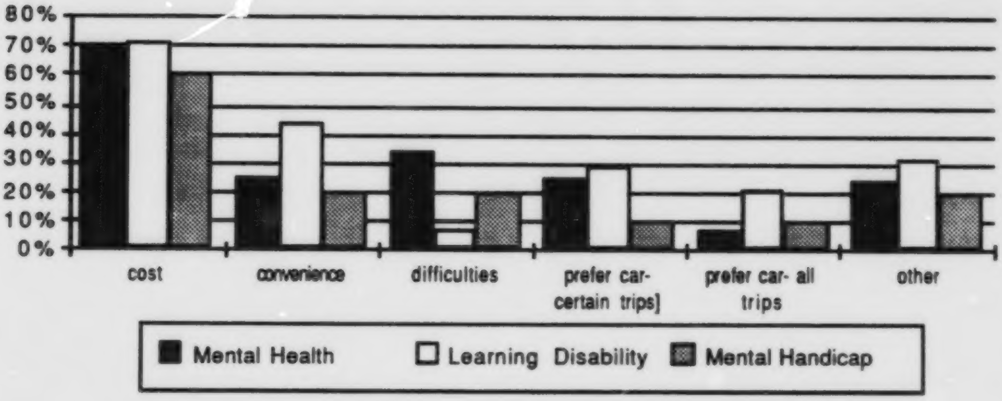
Difficulties in the use of public transit were reported by 14% of those who do not use public transit for all trips. This reason ranked fourth after "inconvenience of routes or schedules" and "prefer car or taxi" for either certain trips or all trips.

## Long Distance Public Transportation

On average, respondents took a total of 33 long distance trips during the past 2 years. Of these, 49% were taken using public transportation.

For long distance travel, 22% indicated public transportation (i.e. train, airplane, inter-city bus) was used for all travel needs. Of those who did not, reasons why are shown in the graph below.

**Figure 6.6: Reasons people do not travel on airplanes, trains, or buses more often**



Difficulties in the use of public transportation were reported by 26% of those who do not use public transportation for all trips. This reason ranked third after "inconvenience of routes or schedules" and "cost."

In sum, difficulties are but one reason for the restricted use of public transportation. What cannot be determined from this survey is whether factors such as cost were more of a barrier than for the general population. Evidence from other sources suggests that some disabilities (e.g. mental handicaps) are associated with lower earnings and hence result in the decreased affordability of travel.

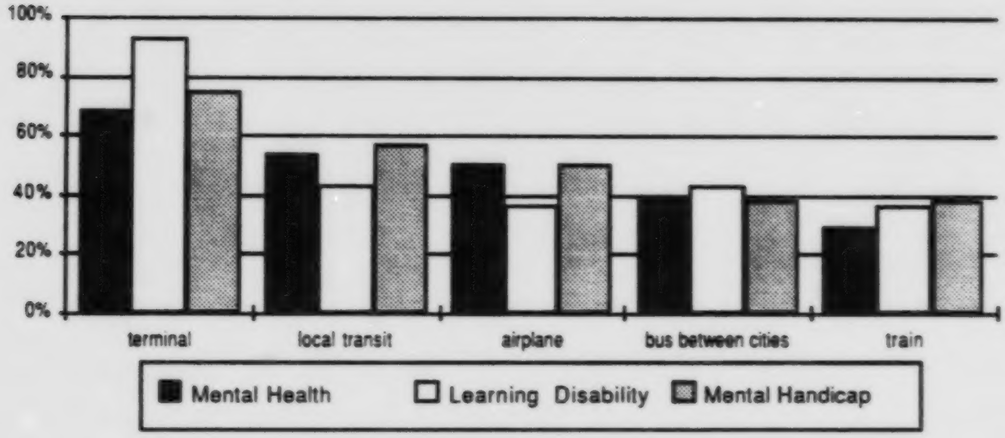
## 6.5 Nature of Travel Difficulties

Overall, 46% of respondents reported disability-related travel difficulties with local or long distance public transportation. Travel difficulties are categorized first by the location of travel difficulties then by travel activity.

**Location of Travel Difficulties**

The following graph shows where travel difficulties occur among people who report difficulties.

Figure 6.7: Where do you have difficulties?



Problems are most prevalent at transportation terminals followed by local transit; these were reported by 76% and 50%, respectively, of those who reported having difficulties. These findings suggest that locations where a wide range of activities must be undertaken are associated with the most problems. The location of problems did not differ greatly between groups.

**Activities Creating Difficulties**

Respondents were asked to rate the level of difficulty in each of three categories:

- preparing for a trip
- activities at a travel terminal
- activities aboard a vehicle

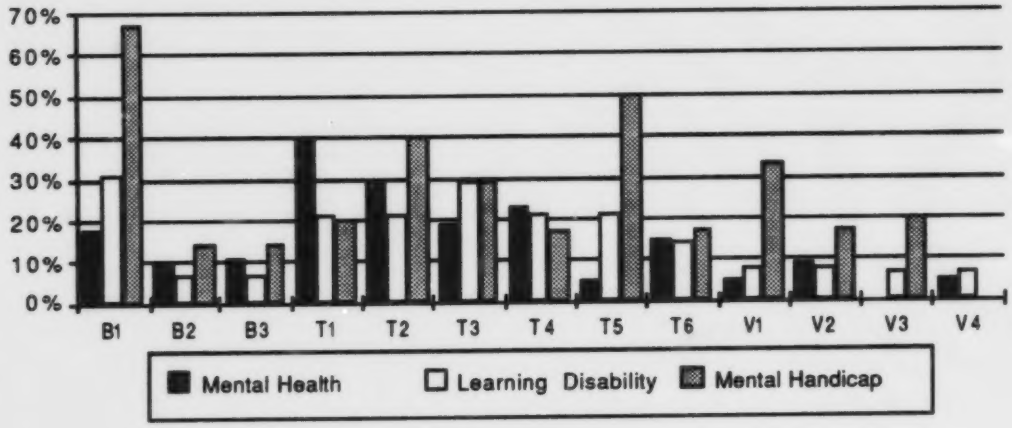
The graph below shows the prevalence of "SEVERE DIFFICULTY" ratings for several activities. The codes for the activities in the chart are:

ACTIVITIES BEFORE THE TRIP
B1=read schedules
B2=pack suitcase
B3=visit or phone travel agent

ACTIVITIES AT A TRANSPORTATION TERMINAL
T1=go though Customs inspection
T2=remember or understand spoken instructions
T3=find proper departure gate
T4=listen for announcements
T5=find baggage
T6=buy ticket

ACTIVITIES ABOARD A VEHICLE
V1=use emergency equipment
V2=ask passengers or staff for information
V3=find a seat
V4=get off at proper destination

**Figure 6.8: What activities create SEVERE difficulties?**



Among respondents who had travel difficulties, the most prevalent problems were: 1) going though customs (31%), 2) reading schedules (29%), and 3) remembering or understanding spoken instructions (28%). Confirming the previous analysis, activities at a terminal accounted for 6 of the 7 most prevalent problems.

The results using only SEVERE DIFFICULTY ratings are consistent with those when both SEVERE DIFFICULTY and OCCASIONAL DIFFICULTY ratings are examined. In this case, the most prevalent problems (e.g. reading schedules) are experienced in 75% to 78% of respondents concerned. The one difference is in the ranking of "going through customs" which falls from 1st to 7th in prevalence when both levels of severity are combined. Generally the prevalence of particular difficulties does not differ systematically across groups.

### 6.6 Conclusion

There was a wide variation in the level of difficulties reported. Some respondents had no difficulties while others reported a large number of problems. Activities at a travel terminal and aboard local transit created the most problems. This could be due to the complexity and stimulating environment of terminals increasing the difficulty of completing tasks. Another explanation is that most problems occur in travel terminals because the traveller has to accomplish relatively more tasks there than while aboard a vehicle.

Are there differences between the groups? The answer to this question depends upon whether whole groups are compared or only those who report having difficulties. When all respondents are considered, differences were found between the groups. For example, travel problems were less prevalent among persons with mental health problems than with other types of mental disabilities.

However, when only the people who reported problems are considered, differences between groups are not so consistent. This may be due to the coarse 3-group classification and/or to statistical factors: There are a relatively small number of cases for individual problems making reliable patterns difficulty to detect.

# 7. SCENARIOS OF TRAVEL DIFFICULTIES

## 7.1 Purpose and Overview

In this chapter, five scenarios of travel difficulties that can arise from mental disabilities are discussed in detail. The scenarios are composite events developed from survey responses and other data collection activities. Along with each scenario is a commentary by individuals with interests in mental disability or public transportation. Respondents were from government, transportation industry, and social service organizations. Following these, a number of scenarios are briefly outlined and an overall commentary is presented.

## 7.2 Mental Handicap Scenario

*A young woman with a mental handicap takes the bus to work. She crosses the street using the procedure she was taught in her travel training course: look left, then right, and cross only on a fresh green light. She has practiced traveling this bus route many times during travel training until she was confident she could do so on her own. She knows she has to get off at the stop by the bakery. On this day, the bus makes a detour due to construction and does not pass this landmark so she fails to recognize her stop. The bus eventually stops at a shopping centre where she gets off. She spends several hours wandering around the mall in a disoriented state until she is spotted by mall personnel.*

### 7.2.1 Disability commentary

This scenario depicts the mid-range of functioning among mentally handicapped people; for these people, intensive travel training can enable them to travel on public transit with a certain degree of independence. This scenario illustrates the use of a rigid strategy (i.e. disembark at the bakery) which has been acquired through extensive rote practice.

Travel training places heavy emphasis on pedestrian safety, as shown in the scenario description of the street crossing. In some people social skills may also require training. Typically, a person such as the one in the scenario would require a companion for long distance travel.

Besides the problem in this scenario, some difficulties can arise due to a limited understanding of the concept of money and other travel-related concepts. A limited understanding of the concept of money may create problems of fare-paying behaviour, for instance.

### 7.2.2. Transportation commentary

In the case of public transit, drivers should be made aware of people with special needs and should keep an eye out for them. This is especially feasible in the case of mentally handicapped persons traveling to a workshop where many persons with the same difficulties are traveling to the same destination.

## 7.3 Learning Disability Scenario

*A person with a learning disability is planning a trip by train. He calls the station to find out the departure gate number. However, he is not able to get the information correctly. He has trouble spelling and sometimes makes errors copying down numbers; for example, he might write "51" as "15". Due to the unsuccessful phone call, he goes to the information desk upon arriving at the station. There he is directed to the departure gate.*

*He finds the departure gate with 10 minutes to spare so goes into a nearby shop to pass time. While in the shop, he listens for a boarding announcement. However, with all the different sounds, he finds it impossible to focus on the announcements so he misses the boarding call. Because he has difficulty judging the passage of time, he emerges from the shop 25 minutes later, after the train has left.*

### 7.3.1 Disability commentary

Difficulties with spelling, numbers, and judging the passage of time are typical problems associated with certain learning disabilities even though these people are otherwise of typical intellectual functioning. In some cases, problems with auditory information are exacerbated due to stress associated with traveling.

One common problem that could have been represented in the scenario is that of directions. People often get confused with "left/right" or "east/west" directions. Another very common problem is difficulties in reading. This could make it difficult to use signs for wayfinding.

To help persons with difficulties grasping auditory information over the phone, information officers could repeat directions, spell names, or ask the person to confirm the information. In terms of public announcements, the actual information could be prefaced by an "attention getter" such as "This is an announcement about..."

### 7.3.2 Transportation commentary

Automated information systems (such as automated telephone information systems) might be used to help overcome the problem of timidity. People could call back these systems as often as necessary to correctly record the desired information.

### 7.4 Head Injury Scenario

*Sally sustained a head injury in a car accident three years ago. Although her appearance does not suggest any disability, she has had to return to live with her parents and is unlikely to complete university. She is able to travel alone but only when the trip is relatively simple; when the information load is too great, she has problems.*

*On this occasion, she felt able to travel alone on a train trip. Upon arriving at the train station, she searched for the departure gate and listened for announcements. Because she was not able to sort out the relevant signs from the irrelevant signs, she paid equal attention to all the signs; she became overwhelmed searching all the signs and she passed the departure gate on several occasions without realizing it. As well, with all the different sounds and activity, she was unable to hear the boarding announcements because sounds from different sources blended together. She became flustered and embarrassed with the unsuccessful search and eventually went to an information booth. By that time, she was in such a state of confusion, she was unable to remember her destination or where she had placed her ticket.*

#### 7.4.1 Disability commentary

This scenario shows a person whose head injury has decreased their ability to cope with information. Therefore, information-rich environments are exhausting because they requires full attention. In the worst cases, disorientation can result to the extent that information such as destination is forgotten.

Another aspect of head injuries, one not explicit in the scenario, is the lack of insight of the person into their condition. Even though they have had problems before, they fail to realize that they cannot do all the things they could before the head injury. Therefore they do not make allowances for this which gets them into trouble.

In this scenario, the person has no other disabilities; however, it is not uncommon for people to incur physical disabilities at the time they get a head injury (in a car accident, for example).

When such a person becomes overloaded and seeks help, reassurance, patience, and a quiet place (both in visual and auditory terms) would be helpful.

### 7.4.2 Transportation commentary

Users should be trained on how to record and keep track of information. It is important they identify themselves to customer service people if they are to get specialized attention. A "Medic-Alert" type bracelet could serve this purpose.

A feature that would help this type of person is a standardized appearance and location of an information/special needs desk. Persons with the most limited wayfinding skills could be taught, for example, to turn to the right and look for the blue desk when entering a travel terminal.

## 7.5 Alzheimer's Scenario

*Bill has Alzheimer's disease. He is prone to becoming disoriented so his wife always accompanies him when he travels. On this trip, they are traveling by plane to visit relatives. At the airport, his wife makes arrangements to sit in the front row so Bill will not become agitated by the activity in the cabin. While his wife is at the counter, Bill wanders off. He is in good physical shape and moves about the terminal without attracting attention. He has become disoriented and thinks he is flying on a business trip like he did often years ago. He attempts to get through security but does not have any boarding pass. The security person realizes something is wrong when Bill says he is trying to catch a flight that has not been in service for years. Bill's wife, realizing what probably happened, finds him at the security counter.*

*Bill cannot use the washroom on the plane. While he can go unassisted at home, he requires assistance on the plane because the washroom appearance is not familiar. It is also undesirable for Bill to use the washroom because he might lock himself in.*

### 7.5.1 Disability commentary

This scenario illustrates the mid-range of functioning. Here an attendant is required. However, the symptoms are not so severe as to require medication to control babbling and restlessness. It is important to obtain appropriate seating. Facing a wall can relieve the sensation of crowding. Crowding can lead to increased restlessness and other difficulties. It is also desirable to be seated without other passengers in adjacent seats due the awkwardness that can be created for both the attendant and the other passengers.

The washroom problem can be alleviated by keeping the door slightly ajar and having the attendant "stand guard". However, in this case, the "Occupied" sign does not light up forcing the attendant to explain the situation to would-be users of the washroom.

### 7.5.2 Transportation commentary

In the case of airlines, such a person, or anyone with a special need, could receive priority treatment by checking in at the special services desk. They would be directed there when they called to book a ticket if they identified themselves as having a special need. Obtaining a seat facing a bulkhead is also not usually a problem.

## 7.6 Schizophrenia Scenario

*Bob first experienced the symptoms of schizophrenia around the age of 17. With medication, schizophrenic episodes were controlled so he was not limited in his activities. On a trip abroad, he felt so well that he stopped taking his medication but suffered a relapse. He had to cancel his return flight while recovering but the insurance did not cover what they considered an "emotional" disorder. When he did return, his condition was not under proper control which caused problems with communications. On the plane, he was non-responsive when the stewardess asked if he wanted refreshments. At customs, he rambled and didn't directly address the customs officer's question. This led to his condition being mistaken for that of a drug user for which he was briefly detained and his belongings searched.*

### 7.6.1 Disability commentary

Symptoms are of two types. Positive ones include delusions and hallucinations while negative ones include apathy and withdrawal. The incident on the plane could be a manifestation of negative symptoms (e.g. withdrawal). It could also be due to paranoia induced by delusions or hallucinations. In the latter case, there is a risk the passenger could become disruptive. At customs, behaviour other than rambling is plausible, namely "word salad" in which words are strung together that do not may any sense.

Psychotic manifestations fluctuate over time; they can last for hours or days. This scenario shows someone who is receiving treatment; many schizophrenics do not accept that they have a disorder and hence do not get the benefits of treatment. In the worst cases, they can end up living on the street.

### 7.6.2 Transportation Commentary

This scenario emphasizes the role of training. Here the lack of recognition or understanding can create additional problems for the passenger.

### 7.7 Briefly Noted Scenarios

The foregoing scenarios are only a few of the possible scenarios. There are many more problems and disabilities that could have been covered. Some further scenarios are briefly outlined below to illustrate the scope of travel difficulties:

- A person with a head injury got on a subway train and forgot his destination; he went back and forth on the line several times without recognizing his stop.

- A person with a head injury had such slow reaction time that the subway came and went before she could make it onto the subway train. (Note: once the person reacted to the sight of the subway she could walk at normal speed).

- As a result of a head injury, a person neglects information in the left half of the visual field. As a result he repeatedly walked by the appropriate gate in a train station because it appeared in the visual field that was neglected by the brain.

- Some people with head injuries lose their temper quickly. This could lead to an altercation over a small misunderstanding.

- A person with Alzheimer's takes a bus to the office although she had been retired for 10 years.

- A person with a mental handicap waves his hands out the bus window and carries on in a boisterous manner disturbing other passengers.

- A person with a mental handicap realizes he missed his bus stop. The driver knows the person has a mental handicap so instructs him to stay on the bus until the bus returns to that stop. However, the person panics and jumps off.

- A person with a fear of flying wants to ask to change seats. However, as a result of a panic attack, he speaks too fast to make himself understood.

- A person with paranoid delusions feels the other passengers are speaking to each other about her. She feels so self conscious that she has to get off the train before she reaches her destination.

- A person with schizophrenia has trouble reading signs because medication blurs his vision.

- A person with a mental handicap was trained to wait at a stop for a particular bus. The behaviour was so rigid that on a day when the bus was not running, the person could not be convinced to accept a car ride home from a neighbor.

### 7.8 Overall Commentary

Reaction to the scenarios was positive. People seem to be able to talk about problems and solutions much easier in the context of a specific instance than in general.

Many of the scenarios have in common that the problem is one of getting to the destination, i.e. getting lost. The scenarios differ more in the contributing factors than in the end result. Some of the reasons people could get lost are that they:

- forget their destination
- cannot read the signs
- become disoriented and think they are going somewhere else
- cannot adjust their strategy in the face of an unanticipated event
- have difficulty following directions
- can read, but cannot find the relevant sign among all the others

The scenarios also show that problems are often situational. That is in any given instance, a person may be able to travel successfully. However, the state of the person or characteristics of the environment conspire to create problems that lead to unsuccessful trips.

# 8. CONCLUSIONS

**1. Many persons with mental disabilities have no special difficulties using public transportation.**

Many people with mental disorders of clinical interest are not perceptibly different in their use of public transportation than the rest of the public.

**2. Situational variables and individual differences create variation in the manifestation of travel problems.**

Among persons who are "at risk" for encountering problems during a trip, problems do not necessarily manifest themselves on every trip. Some determinants are:

- type of trip or situation
- severity of the disorder
- secondary characteristics of the disability
- related physical disabilities

These are discussed separately in the following points.

**3. The type of trip or situation can determine the manifestation of a problem.**

Some examples of situations that can create problems are:

- travel to unfamiliar destinations
- complex or crowded facilities
- unforeseen changes in plan (e.g. detours, delays)

**4. Severity of the disorder affects the prevalence of problems.**

With certain disorders, disability can range from nil to complete incapacitation where independent travel would be out of the question; depression, for example, ranges from "the blues" to complete debilitation. Related to the issue of severity is control of symptoms; in certain psychiatric disorders (e.g. schizophrenia), medication can be used to control symptoms. The adequacy of medication or treatment therefore affects the severity of functional limitations. On the other hand, side-effects of some medication such as nausea can create other travel problems.

**5. Secondary characteristics of a disability are a significant source of problems.**

Many problems arise due to secondary characteristics of a disability. For example, although reading impairment would be a typical condition associated with learning disability, unrelated characteristics of learning disabilities, such as timidity, may be present. Therefore travel problems arise not only because of reading problems but because the person is too timid to ask for information.

**6. Physical disabilities may accompany mental disabilities.**

The demographic analysis showed that persons with disabilities typically have multiple disabilities. For example, accidents where head injuries occur would likely be associated with other injuries, as well.

**7. Inadequate transportation is only one reason persons with mental disabilities are restricted in their travel.**

The demographic analysis indicates that only 10% of persons who report that transportation problems prevent them from pursing activities say it is the only reason. Among the write-in responses to the survey, traveling costs, and not difficulties using public transportation, were cited as the most prevalent limitation.

**8. Persons with disabilities in the mid-range of severity would benefit most from accessibility initiatives.**

Efforts to increase accessibility, such as those discussed in the recommendations of this report, would be of most benefit to people functioning at the level of persons in life-skills training or occupational rehabilitation. For these people who can function in society with a little help, being able to use public transportation may be the key factor in living independently.

**9. Two classes of problems can be distinguished: avoidance and unsuccessful trips.**

A significant number of persons with mental disabilities actively avoid all public transportation, certain modes, or certain travel situations. This could be a direct result of a mental disability or due to unpleasant past experiences. For example, someone who was extremely self-conscious would not be able to travel by public means. As well, persons who experience repeated confusion in airport terminals or get lost on public transit might avoid those situations.

The other type of problem, unsuccessful trips, refers to problems arising from an attempt to complete a trip.

**10. Strategies help overcome limitations imposed by certain disorders.**

Many problems are averted through the use of strategies. For example landmarks are used by people who have trouble with directions or with reading. Therefore a transient problem occurs when the strategy cannot be used. If some element of the strategy fails then completing the trip successfully is highly unlikely.

**11. Problems vary across travel modes.**

Problems are most prevalent in terminals followed by aboard aircraft, inter-city buses, and trains. The relative prevalence of problems between local transit and long distance modes is not clear. Cognitive problems, such as reading and wayfinding, seem most prevalent across modes of travel.

**12. Legal issues in the area of physical disability and human rights have implications for mental disability.**

To date there has been little legal action over issues related specifically to mental disability and public transportation in Canada. However, advances in the area of physical disability and human rights legislation can be interpreted broadly as creating a favourable climate for initiatives in the area of mental disability.

# 9. RECOMMENDATIONS

This study has resulted in an initial understanding of travel difficulties that can result from mental disability. From this understanding, two types of recommendations follow; the first deals with the interaction between travellers and *staff* and includes: 1) training, 2) procedures, operations, and information, and 3) customer services. The second type of recommendation deals with the interaction between travellers and *things* and includes technology and facilities for terminals and vehicles.

Areas where further investigation of issues is required before recommendations can be made. These areas are also outlined.

## 9.1 Training

### 9.1.1 Personnel training

Many travel problems could be solved by helpful and understanding staff. Currently, there are scattered efforts at customer service training and "sensitivity training". These programs are aimed at providing better service to all customers or to persons with disabilities, with emphasis on sensory and mobility. However, these programs tend not to cover the specific needs of persons with cognitive or emotional disabilities. The first steps towards developing this type of training are:

- conduct training needs analysis,
- identify personnel who should be trained, and
- develop scenarios modelled on those in this report into training materials.

Training needs analysis entails determining what should be covered and how it should be covered; this is specified through learning objectives, enabling objectives, performance objectives, specification of training delivery media, and so on. As well, the extent to which different types of staff need specialized training should be determined.

Two aspects of training are required: making personnel comfortable serving persons with mental disabilities (i.e. "sensitivity" training) and showing staff how to help (i.e. skills training). For example, offering assistance to an overloaded person should not be done with a blanket offer (e.g. How can I help you?) but by enumerating a few specific options (e.g. Would you like me to help you phone your home?).

"Real life" situations would likely be a heavy component of training. The scenarios developed in this study provide a logical starting point for developing this type of course material. These scenarios are based on real events and have been extensively reviewed by both persons with expertise in disability issues and transportation. These scenarios could evolve into case studies, experiential learning exercises (e.g. role playing), or form the basis of video presentations.

### 9.1.2 User training

A sound strategy for alleviating travel problems is to better prepare persons to travel. Travel training is already being used successfully to provide some people with mental handicaps with skills to use public transit. This travel training could be expanded to a wide range of disabilities and travel situations.The first steps in developing such training are to:

- identify mental disabilities suitable for travel training,
- determine the applicability of current travel training that focuses on public transit for inter-city travel, and
- identify special considerations for training delivery for various mental disabilities.

As an example of disability-specific training needs, persons with reading disabilities might benefit from training in the use of landmarks. Another example would be taking trainees through a "mock" trip to familiarize them with the facility or with travel activities. Finally, a brochure that covers trip planning would be useful to some people.

## 9.2 Procedures, Operations, and Information

There are two complementary approaches to making procedures and operations less of a hinderance to travellers: simplification and standardization. For persons with cogntive disabilities, simplified procedures mean fewer demands on their memory, problem-solving skills, and the like; standardization allows travelling to become easier over time because what is learned about the procedures and operations can be applied to subseqent travel.

For persons with emotional disabilities, anxiety disorders in particular, standardization and simplification are also beneficial. Standardization reduces an important source of anxiety - the unknown and unpredictable. Anxiety reduces the capacity for assimilating information (such as wayfinding instructions) and flexible problem-solving; therefore, simplified procedures and operatons are needed.

The first steps for improving produres, operations, and information are:

- identifying the types of procedures, operations, and information whose standardization would be most beneficial,
- developing a standard for the areas identified as needing standardization,
- determining ways to reduce the complexity of procedures using appropriate methodologies (e.g. decision tree analysis)
- implementing new operations to reduce adverse conditions (e.g. crowding)

It is premature to state what specific recommendations might emerge from these analyses; nevertheless, the merit of the following ideas should be investigated in these analyses:

- standard location and appearance of information desks in travel terminals,
- monitoring of crowding levels and procedures to control pedestrian flow,
- standards for visual and auditory noise in terminals, and
- clear and repeated announcements.

### 9.3 Customer Services

Improving general operations and information can alleviate many problems associated with travel. However, specific services geared to persons with cognitive or emotional disabilities are necessary to prevent the types of problems these people report having.

#### 9.3.1 Lost persons service

Getting lost is a common problem with many mental disabilities. A standard procedure should be developed for dealing with disoriented people who are found by staff or attendants reporting a lost party. Such systems are being used on a small scale by individual organizations and public transit properties and have been extremely useful. One model is a general-purpose, publicized service such as the "911" police dispatch which anyone who is lost could call.

#### 9.3.2 Attendant-less travelling

In some situations, it is not practical for an attendant to accompany a person. In this case, it would be useful to be able to "register" the passenger with the carrier who would then ensure they get off at the proper destination and were picked up by the prearranged contact.

### 9.3.3 Other services

There are several other services that would benefit persons with particular mental disabilities:

- seating available near the front of vehicles for persons for whom the activity or unfamiliarity of the cabin would be agitating (e.g. persons with Alzheimer's),
- adjacent seating for a person and their attendant,
- parallel services to bypass long line-ups,
- personal notification of arrival at the destination (to reduce anxiety),
- travel insurance to cover mental disabilities, and
- special treatment at security counters to prevent frisking that would be unnerving.

### 9.3.4 Safety net program

A safety net program essentially incorporates the features that have just been discussed individually. A coherent program has advantages over disparate initiatives. In particular a well-publicized program that touts easy-to-use public transportation and special services would encourage persons to use public transportation.

Many travel problems have an anxiety component; people avoid public transportation due to fears of not being able to complete a trip successfully. If these people were informed that help was always close at hand, they would be inclined to use public transportation more. Those already using it could do so with reduced levels of anxiety and hence higher success rates.

## 9.4 Technology and Facilties For Terminals

### 9.4.1 Rest area

In some cases, persons become disoriented as the result of stress associated with travel. A quiet rest area should be provided to allow persons with disabilities and their attendants to recover from problems or avoid problems that can arise due to commotion. This area could also be used by persons with any kind of difficulty traveling where a rest area would help.

### 9.4.2 Information display and wayfinding

Information display and wayfinding systems are some of the most important parts of the terminal facility. A systematic analysis of these should be completed for their suitability for addressing persons with various cognitive (e.g. information filtering, memory, language) disabilities. It is premature to state exactly what improvements would be recommened though the following should be considered:

- signs should make use of non-linguistic codes when possible (e.g. colour),
- complex areas should be furnished with memorable landmarks to facilitate wayfinding,
- there should be a system to allow individuals to play back auditory announcements.

This last recommendation could take the form of an telephone-based system that plays back messages to people who call the number. Alternatively, a screen-based system could be used, though its usefulness would be restricted to people who could read.

### 9.4.3 Other technology and factility needs

Some other needs are for:

- large washrooms for persons requiring assistance from a caregiver, and

- expanded and policed parking for persons with disabilities.

## 9.5 Technology and Facilities For Vehicles

The issues of hazards is acute in vehicles. An analysis of hazards that might arise due to certain cogntive and emotional disabilties is required. Features are required such as washrooms that cannot be unlocked from the outside.

## 9.6 Areas for Exploratory Research

This section covers areas where further research is needed to further illuminate issues surrounding the travel needs of persons with cognitive or emotional disabilties. This research, in turn, would provide the basis for further initiatives for technological development.

### 9.6.1 Improving awareness

The way organizations deal with issues of mental disability merits further research. The two most pressing questions are:

1) How can current practices dealing with mental disability best be characterized:

a) no special attention devoted to this issue,
b) unnecessary difficulties or restrictions created, or
c) concerns regarding mental disability addressed progressively.

2) How adequate is the coverage of "mental disability" as defined in policies? Does it exclude some people who should be covered by special disability-related benefits? Is it too inclusive and thereby impose restrictions on persons to whom the label should not apply?

Under these two questions, some specific areas that can be examined include:

- terminology in official documents,
- insurance for expenses due to mental disabilities (e.g. trip cancellation),
- customs policies and procedures,
- practices for collecting information about disabilities (e.g. for insurance purposes), and
- discussion of considerations related to mental disability where relevant.

### 9.6.2 Segmenting the target market

There is a wide scope to develop initiatives to target part of the overall "mental disability" market. Some groups have been identified in this study as needing further attention, in particular elderly persons with disabilities. As well, further research is needed to develop target market segments with homogeneous needs. Building upon the cognitive/emotional distinction, subsets of these large categories could be examined in more detail. For example, the emotional category could be broken down into:

- inappropriate social behaviour,
- inappropriate appearance/mannerisms/visual behaviour,
- anti-social behaviour,
- inappropriate or excessive emotional behaviour, and
- manifestations of anxiety or distress.

The cognitive category could be broken down into:

- knowledge about self and reality,
- memory,
- language,
- comprehension of concepts, and
- judgment/decision making.

Severity is another dimension that requires closer attention in future research. In this study, the issue of severity arose in the scenario development; here a systematic effort was made to depict the mid-range of functional limitation among the non-institutional population with mental disabilities.

### 9.6.3 Demographic and survey research

There is much scope for collecting data that is more relevant or rigorous from the point of view of transportation research. As a starting point, more analyses of HALS data could be done, especially using cross-tabulations and subsets of data. For example, disabilities could be classified using various schemes to identify useful ways to segment the target population.

Some of the problems with current sources of data that should be addressed in future research are:

- ensuring that travel problems reported are due to a mental disability and not a physical disability that a person also might have,

- reducing the prevalence of responses in the Other categories, especially in questions about the nature of disabilities,

- establishing a baseline for comparing persons with mental disabilities to the rest of the population (e.g. do people with mental disabilities have more of a problem reading signs, for example, than the general population), and

- inquiring about the context in which problems happen (e.g. Do you have problems traveling on a new route, reading signs in crowded terminals, etc.).

### 9.6.4 Safety and cost issues

Two arguments that re-occur against accessibility are cost and safety. Sound research is needed so that good judgments can be made in these areas. It should be perfectly clear by this point, that many so-called mentally disabled persons use public transportation without a hitch and even more of them pose no special risk. Nevertheless, there are some instances where the cognitive or emotional characteristics of persons may cause problems for themselves, other passengers, or the transportation system. Some safety concerns are:

- coping with antisocial behaviour (e.g. theft),
- coping with substance abuse,
- containing disruptive cases (e.g. persons prone to aggressive outbursts),
- special procedures for transport of criminally dangerous persons.

In the area of cost, feasibility studies should be conducted and the costs associated with existing programs should be examined (e.g. the Victoria, B.C. Bus Buddy Program).

### 9.6.5 Conceptual Frameworks for Future Research

Different approaches for studying accessibility problems are presented below as suggestions to organize further research.

#### 9.6.5.1 Sequential task framework

Research and development efforts can be viewed as a sequence of tasks:

1. improve the sensitivity of organizations to mental disability,

2. improve the general human factors of transportation system services and facilities,

3. develop new, specialized facilities and services for persons with mental disabilities,

4. examine the role of transportation as a link in the delivery of mental health services (e.g. provide special transportation to persons for whom mental health services would be otherwise inaccessible), and

5. develop ways to remove non-transportation impediments to transportation use (e.g. low income).

The first two categories deal with improving the existing situation, the third involves new initiatives within the transportation function, and the last two relate to the integration of transportation with other services. These last two tasks are viewed as collaborative efforts with the appropriate mental health agencies.

#### 9.6.5.2 Two levels of accessibility framework

Accessibility can be viewed as having two levels:

- getting people to use public transportation,
- ensuring a successful trip for those who use (or want to use) public transportation.

At the first level, problems that would be examined are:

- decreasing the active avoidance of public transportation (e.g. due to anxieties)
- decreasing non-transportation-related hindrances such as cost, availability of insurance, etc.

At the second level, the population of interest are those who are already using public transportation or would like to if they could. Here more traditional issues of accessibility would be examined.

#### 9.6.5.3 Cognitive/emotional framework

One of the difficulties with this type of research is the complexities of mental disabilities and the low level of relevance of much of the research on mental disability for transportation. These difficulties can be by-passed, and many accessibility problems solved, by addressing cognitive and emotional aspects of travel more generally. In many cases, improvements that lead to reductions of the cognitive and emotional demands will be welcome by anyone, not only persons with mental disabilities.

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# Appendix

## Survey Forms

Behavioural Team, A Corporation
21 Vaughan Road, suite 202, Toronto M6G 2N2
Voice (416) 656-6676 Fax (416) 658-6878

## *Could we please have a few moments of your time...*

The *Transportation Development Centre* of Transport Canada is working to make public transportation more accessible to all Canadians, including people with learning, emotional, or mental disorders. To provide us with the most complete picture of problems encountered in travel, we ask you to take the time to complete this brief survey. We are interested in problems you may have because of learning problems (such as difficulties planning trips, reading signs, or understanding announcements) or problems you may have because of mental or emotional disorders (such as stress, fear, or anger).

This survey asks about activities in (a) *planning* a trip, (b) *at a travel terminal* such as an airport, and (c) *aboard a vehicle*. All types of transportation are being considered: bus, train, airplane, and local public transit (such as the bus or the subway).

Please help: we would like to hear about your travel experiences *even if you do not have any difficulties or do not travel much*. By completing this short survey, you can help make transportation easier to use for everybody. All your responses will remain confidential.

Please use the enclosed envelope to return your completed survey.

Thank you very much for filling out the survey.

Sincerely yours,

Barkow

Ben Barkow, Ph.D.
President

### *A note to caregivers, aides, and other health professionals:*

*If you provide support or care to a person with a disability, please answer the questions as they pertain to that person. Please consult this person in answering the survey. If you provide professional services to persons with disabilities, please pass this survey along to such a person; if this is not possible, please complete the survey yourself basing your answers on a typical person encountered in your work.*

Please turn the page for a survey of problems in local and long distance travel.

## Section 1: Travel Near Your Home

1. Listed below are reasons for making trips near your home. Please indicate how many trips you have made in **the past 30 days.**. *Going to* your destination and *returning home* count as 2 separate trips.

| | Number of trips using regular bus or subway | Number of trips using a car, taxi or a special van or bus service |
|---|---|---|
| going to work | | |
| visiting a doctor or hospital | | |
| going to school | | |
| shopping | | |
| going to movies, to visit people, or to church | | |
| other (please explain:________________) | | |

2. Do you use the bus or subway for all your local travel needs? yes ☐ no ☐

If you responded *NO*, why do you not use them all the time?

The routes or schedules are not convenient ☐
It costs too much ☐
I use special transit services or paratransit ☐
I have difficulties using public transit ☐
I prefer to use a car or taxi for certain types of trips ☐
I prefer to use a car or taxi for all types of trips ☐
other (please explain:________________) ☐

3. Do you have a driver's licence? yes ☐ no ☐

---

## Section 2: Long Distance Travel

1. For each of the types of long distance trips listed below, please indicate how many trips you have taken in the **last two years.** (Remember, count return trips as 2 trips).

| | Number of trips using a train, airplane, or bus | Number of trips using a car |
|---|---|---|
| trip for vacation or pleasure | | |
| visit doctor or hospital | | |
| travel for (but not to) work | | |
| other (explain:________________) | | |

2. Were any of these trips made to destinations outside Canada? yes ☐ no ☐

3. Are there any reasons why you do not travel on airplanes, trains, or buses more often? yes ☐ no ☐

If you responded *YES*, what are the reasons?

The routes or schedules are not convenient ☐
It costs too much ☐
I use special transportation services or paratransit ☐
I have difficulties using public transportation ☐
I prefer to use a car for certain types of trips ☐
I prefer to use a car for all types of trips ☐
other (please explain:________________) ☐

## Section 3: Travel experiences

Everyone occasionally has problems during travel. But some people have special problems. For example, a person with a fear of flying would find it difficult to travel by air. The following questions address these special problems.

1. Do you have special difficulties when you travel either locally or long distance? yes ☐ no ☐

If you answered *NO*, please skip the rest of this section and go to **Section 4.**

2. Listed below are some common travel activities. Check the box that best describes any difficulty you have.

| | Don't know | No difficulty | Slight or occasional difficulty | Severe difficulty |
|---|---|---|---|---|
| **Activities *before* the trip** | | | | |
| read schedules | ☐ | ☐ | ☐ | ☐ |
| visit or phone a travel agent | ☐ | ☐ | ☐ | ☐ |
| pack suitcase | ☐ | ☐ | ☐ | ☐ |
| **Activities *at the Terminal* (Airport, bus terminal, etc.)** | | | | |
| buy ticket | ☐ | ☐ | ☐ | ☐ |
| listen for announcements | ☐ | ☐ | ☐ | ☐ |
| remember or understand spoken instructions | ☐ | ☐ | ☐ | ☐ |
| go through Customs inspection | ☐ | ☐ | ☐ | ☐ |
| find proper departure gate | ☐ | ☐ | ☐ | ☐ |
| find baggage | ☐ | ☐ | ☐ | ☐ |
| **Activities *aboard the vehicle*** | | | | |
| find a seat | ☐ | ☐ | ☐ | ☐ |
| get off at proper destination | ☐ | ☐ | ☐ | ☐ |
| ask passengers or staff for information | ☐ | ☐ | ☐ | ☐ |
| use emergency equipment | ☐ | ☐ | ☐ | ☐ |

How could any of these activities be made easier for you?

________________________________________________

________________________________________________

3. Where do you have difficulties? Please check all that apply.

local transit (such as a bus or subway) ☐
in terminal buildings (for example, an airport) ☐
in a bus *between* cities ☐
in a train ☐
in an airplane ☐

4. Here are a few things that can cause difficulties when travelling. Check all those that apply to you.

reading difficulties ☐
speech difficulties ☐
memory loss ☐
dealing with strangers ☐
disorientation or confusion ☐
vision loss ☐
hearing loss ☐
short temper ☐
decision making ☐
anxiety or fear ☐
other (please explain:________________________) ☐

5. Do you travel with someone who must assist you? yes ☐ no ☐ sometimes ☐

6. Please tell us about a problem you have had using buses or subways *in the city.* Use another piece of paper if you need extra space. Be sure to write the number "6" by your answer.

7. Please tell us about a problem you have had using buses, trains, or airplanes *between cities*. Use another piece of paper if you need extra space. Be sure to write the number "7" by your answer.

## Section 4: Background Information

To make the best use of your answers, we need to know a little bit more about you. Please remember that you are anonymous, and that any information you give us will remain secret.

1. From time to time, everyone has trouble remembering the name of a familiar person or learning something new, or they may experience confusion. However, do you have *ongoing problems* with your ability to remember or learn? yes ☐ no ☐

2. Because of a long-term emotional, psychological, nervous, or mental health condition or problem, are you limited in the kind or amount of travel activities? yes ☐ no ☐

3. If you answered *YES* to any of the two questions above, please describe the symptoms or name the problem or disorder: ______________________________

4. What is your age? 15-18 ☐ 19-34 ☐ 35-54 ☐ 55+ ☐

5. What is your sex? male ☐ female ☐

6. How large is the community you live in?
less than 10,000 ☐ 100,000-1,000,000 ☐ don't know ☐
10,000-99,999 ☐ over 1,000,000 ☐

7. What province or territory do you live in?______________

8. What is *your main current reason* for being interested in the problems discussed in this survey?
to help people who are like me ☐ I am a caregiver/aide to someone ☐ my profession ☐
other ☐ (please explain:______________________________)

Do you have any other comments which you think might be helpful to us?

***Thank you for your time.***

**Behavioural Team, A Corporation**
21 Vaughan Road, suite 202, Toronto M6G 2N2
Voice (416) 656-6676, Fax (416) 658-6878

***Pouvons-nous avoir votre attention pendant quelques instants?...***

Le Centre de développement des transports, Transports Canada, oeuvre afin de rendre le transport public plus accessible à tous. Ce sondage a été mis au point pour mieux cerner les difficultés d'utilisation des moyens de transport qui sont liées aux troubles d'apprentissage, à la déficience mentale, ou aux problèmes d'ordre psychique.

Ce sondage vise à déterminer les problèmes qui peuvent arriver 1) avant d'entreprendre un déplacement, 2) à un terminus de transport tel qu'un aéroport, ou 3) à bord d'un véhicule. Tous les modes de transport public sont inclus dans ce sondage (autobus interurbain, train, avion, et transport en commun urbain en autobus ou métro).

Nous aimerions connaître vos expériences par rapport au transport, même si vous n'avez aucune difficulté ou si vous ne voyagez pas souvent. En complétant ce bref questionnaire, vous contribuerez à rendre le transport public plus accessible à tous. Vos réponses resteront anonymes.

Veuillez utiliser l'enveloppe ci-jointe pour retourner le questionnaire. Merci de votre collaboration.

Barkow

Ben Barkow, Ph.D.
Président

***Un mot aux prestataires de services, aux accompagnateurs et aux professionnels de la santé mentale:***

*Si vous complétez ce questionnaire pour une personne handicapée, vous êtes priés de répondre selon la perspective de la personne interrogée, et de consulter cette dernière avant de formuler les réponses. Si vous dispensez des services professionnels aux personnes handicapées, basez vos réponses sur le cas d'une personne représentant celles que vous rencontrez dans le cadre de votre travail.*

**Tournez la page pour un questionnaire concernant les problèmes d'utilisation du transport en commun urbain et interurbain**

Statistics Canada # DOT/DAT/075-3775 (MH)

## Section 1 - Déplacements en milieu urbain

1. Veuillez indiquer le nombre de déplacements en milieu urbain que vous avez faits dans les 30 jours précédents. Veuillez donner un numéro pour chacun des différents moyens de transport suivants et pour chaque motif de déplacement. Un aller-retour correspond à deux déplacements.

| | nombre de déplacements en autobus ou métro | nombre de déplacements en automobile, taxi, ou service spécialisé |
|---|---|---|
| se rendre au travail | ____ | ____ |
| visite médicale (médecin ou hôpital) | ____ | ____ |
| aller à l'école | ____ | ____ |
| se rendre au magasin | ____ | ____ |
| se rendre au cinéma, à la messe, chez un(e) ami(e) | ____ | ____ |
| autre (précisez):________________________ | ____ | ____ |

2. Prenez-vous l'autobus ou le métro pour tous vos déplacements en ville? oui ☐ non ☐

Si vous avez répondu NON, prière d'indiquer quels sont les motifs qui déterminent votre choix?

- routes ou horaires peu commodes ☐
- coût trop élevé ☐
- utilisation des services de transport spécialisé ☐
- difficultés à utiliser le transport en commun ☐
- préférence pour l'automobile ou le taxi pour certains déplacements ☐
- préférence pour l'automobile ou le taxi pour tous déplacements ☐
- autre (précisez).________________________________ ___ ☐

3. Avez-vous un permis de conduire? oui ☐ non ☐

---

## Section 2 - Déplacements interurbains

1. Pour chacun des motifs de déplacement suivants, veuillez indiquer le nombre de déplacements que vous avez faits dans les deux dernières années. (Rappelez-vous qu'un aller-retour correspond à deux déplacements).

| | nombre de déplacements en train, autobus, ou par avion | nombre de déplacements en automobile |
|---|---|---|
| voyage pour loisirs ou tourisme | ____ | ____ |
| déplacement à motif médical | ____ | ____ |
| voyage d'affaires | ____ | ____ |
| autre (précisez)______________________) | ____ | ____ |

2. Avez-vous voyagé en dehors du Canada au cours des deux dernières années? oui ☐ non ☐

3. Y a-t-il des difficultés qui vous empêchent de voyager plus souvent par avion, train, ou autobus?

oui ☐ non ☐ Si vous avez répondu OUI, indiquez s'il s'agit de:

- routes ou horaires peu commodes ☐
- coût trop élevé ☐
- utilisation des services de transport spécialisé ☐
- difficultés à utiliser le transport en commun ☐
- préférence pour l'automobile ou le taxi pour certains déplacements ☐
- préférence pour l'automobile ou le taxi pour tous déplacements ☐

## Section 3 - Le vécu de vos déplacements

La plupart des gens subissent parfois des inconvénients en voyage, mais certaines personnes éprouvent des difficultés particulières. Par exemple, une personne ayant peur de prendre l'avion trouvera le déplacement par voie aérienne difficile, voire impossible. Les questions suivantes s'adressent à ce genre de situation.

1. Éprouvez-vous des difficultés particulières à vous déplacer en milieu urbain ou interurbain en utilisant le transport en commun?

oui ☐ non ☐ **Si vous avez répondu NON, allez directement à la section numéro 4.**

2. Ce qui suit est une liste d'activités qui sont associées à l'utilisation du transport public. Indiquer le niveau de difficulté que vous éprouvez face à chaque activité.

| | ne sais pas | sans difficulté | assez difficile | très difficile |
|---|---|---|---|---|
| **Activités préalables au déplacement** | | | | |
| lire les horaires | ☐ | ☐ | ☐ | ☐ |
| téléphoner à/ou visiter un agent de voyage | ☐ | ☐ | ☐ | ☐ |
| faire les valises | ☐ | ☐ | ☐ | ☐ |
| **Activités à un terminus (aéroport, etc.)** | | | | |
| acheter ou prendre un billet | ☐ | ☐ | ☐ | ☐ |
| entendre les annonces | ☐ | ☐ | ☐ | ☐ |
| comprendre ou se rappeler les instructions verbales | ☐ | ☐ | ☐ | ☐ |
| accomplir les formalités de douanes | ☐ | ☐ | ☐ | ☐ |
| trouver la porte d'embarquement | ☐ | ☐ | ☐ | ☐ |
| récupérer les bagages | ☐ | ☐ | ☐ | ☐ |
| **Activités à bord d'un véhicule** | | | | |
| trouver un siège | ☐ | ☐ | ☐ | ☐ |
| descendre à la bonne destination | ☐ | ☐ | ☐ | ☐ |
| se renseigner auprès d'un autre passager ou d'un membre de l'équipage | ☐ | ☐ | ☐ | ☐ |
| utiliser le matériel de sauvetage | ☐ | ☐ | ☐ | ☐ |

Quelles mesures rendraient ces activités plus faciles pour vous?________________________

3. Dans quels environnements éprouvez-vous des difficultés. Choisissez les réponses utiles.

avion ☐ autobus urbain ou métro ☐ terminus de voyage (ex. gare d'autobus) ☐
train ☐ autobus interurbain ☐

4. Indiquez quels des éléments suivants représentent des obstacles auxquels vous devez faire face au cours de vos déplacements.

difficultés de lecture ☐
difficultés d'élocution ☐
entretien avec les étrangers ☐
désorientation ou confusion ☐
autre ☐ (précisez) ________________________

perte de vision ☐
perte de mémoire ☐
surdité ☐
susceptibilité ☐

angoisse ou peur ☐
indécision ☐

5. Voyagez-vous avec un accompagnateur? oui ☐ non ☐ parfois ☐

6. Citez un problème que vous avez rencontré en utilisant l'autobus urbain ou le métro. Continuez sur une autre feuille, si nécessaire, en indiquant dessus le numéro "6".

______________________________

______________________________

7. Citez un problème que vous avez eu en utilisant l'autobus interurbain, le train, ou l'avion. Continuez sur une autre feuille, si nécessaire en indiquant dessus le numéro "7".

______________________________

______________________________

## Section 4 - Données démographiques

Afin que vos réponses soient le plus possible utiles, nous avons besoin de quelques renseignements supplémentaires. Nous vous rappellons que vos réponses resteront anonymes et confidentielles.

1. De temps en temps, il arrive à tout le monde de ne pouvoir se rappeler du nom d'une personne ou d'éprouver quelque difficulté à apprendre quelque chose de nouveau, ou encore de se sentir embrouillé. Cependant, avez-vous un problème plus permanent qui tende à entraver l'apprentissage ou le rappel de certaines choses?

oui ☐ non ☐

2. Avez-vous des troubles émotionnels, psychologiques, ou de santé mentale à long terme qui tendent à rendre plus difficiles vos déplacements urbains ou interurbains?

oui ☐ non ☐

3. Si vous avez répondu OUI à une de ces questions, précisez les symptômes que vous ressentez, ou le nom de votre condition, handicap, ou maladie:

______________________________

4. Quel est votre âge? 15-18 ans ☐ 19-34 ans ☐ 35-54 ans ☐ 55+ ☐

5. Quel est votre sexe? masculin ☐ féminin ☐

6. Combien de personnes habitent votre municipalité?

| | | |
|---|---|---|
| moins de 10 000 ☐ | 100 000 à 1 000 000 ☐ | je ne sais pas ☐ |
| 10 000 à 99 999 ☐ | plus de 1 million ☐ | |

7. Quel intérêt ce sondage représente-il pour vous?

aider les gens comme moi ☐ dispensateur de soins ☐ qualité professionnelle☐
autre ☐ (précisez) ______________________________

Si vous avez d'autres commentaires utiles à nous faire, prière de les inclure.

***Merci de votre participation***

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**Behavioural Team**
21 VAUGHAN ROAD, SUITE 202, TORONTO, ONTARIO M6G 2N2 (416) 656-6676

**Data from the Health and Activity Limitation Survey**
**and**
**Descriptive Statistics for Behavioural Team Survey**
**used in:**

# FLIGHT 201 HAS BEEN MOVED TO GATE 102:
# Challenges Experienced by Travelers with Cognitive or Emotional Disabilities

**June 1990**

**Prepared for:**

**Transportation Development Centre**
**Policy and Coordination Group**
**Transport Canada**

**Prepared by:**

**Paul McInerney, M.A.**
**Ben Barkow, Ph.D**
**with the assistance of:**
**Shari Stein, M.S.W., LL. B**
**Sandor Wiseman, Ph.D**

[illegible]
Transport Canada / Transports Canada

451813

# Descriptive Statistics for
# Behavioural Team's Survey

## Section 1: Travel Near Your Home

1. Listed below are reasons for making trips near your home. Please indicate how many trips you have made **in the past 30 days.**. *Going to* your destination and *returning home* count as 2 separate trips.

| | Number of trips using regular bus or subway | Number of trips using a car, taxi or a special van or bus service |
|---|---|---|
| going to work........................................ | ____ | ____ |

**$X_1$ : 1.1 pub work**

| Mean: | Std. Dev.: | Std. Error: | Variance: | Coef. Var.: | Count: |
|---|---|---|---|---|---|
| 7.5 | 15.1 | 1.5 | 228.6 | 201.6 | 96 |
| Minimum: | Maximum: | Range: | Sum: | Sum of Sqr.: | # Missing: |
| 0 | 64 | 64 | 720 | 27118 | 21 |

**$X_2$ : 1.1 nopub work**

| Mean: | Std. Dev.: | Std. Error: | Variance: | Coef. Var.: | Count: |
|---|---|---|---|---|---|
| 6.6 | 15.1 | 1.6 | 227.3 | 229.7 | 94 |
| Minimum: | Maximum: | Range: | Sum: | Sum of Sqr.: | # Missing: |
| 0 | 66 | 66 | 617 | 25191 | 23 |

| | Number of trips using regular bus or subway | Number of trips using a car, taxi or a special van or bus service |
|---|---|---|
| visiting a doctor or hospital ........................ | ____ | ____ |

**$X_1$ : 1.1. pub doctor**

| Mean: | Std. Dev.: | Std. Error: | Variance: | Coef. Var.: | Count: |
|---|---|---|---|---|---|
| 2.3 | 5.6 | .6 | 31.3 | 239.3 | 95 |
| Minimum: | Maximum: | Range: | Sum: | Sum of Sqr.: | # Missing: |
| 0 | 32 | 32 | 222 | 3458 | 22 |

**$X_2$ : 1.1 nopub doctor**

| Mean: | Std. Dev.: | Std. Error: | Variance: | Coef. Var.: | Count: |
|---|---|---|---|---|---|
| 1.5 | 2.6 | .3 | 6.6 | 174.4 | 94 |
| Minimum: | Maximum: | Range: | Sum: | Sum of Sqr.: | # Missing: |
| 0 | 12 | 12 | 138 | 812 | 23 |

| | Number of trips using regular bus or subway | Number of trips using a car, taxi or a special van or bus service |
|---|---|---|
| going to school | ____ | ____ |

**$X_1$ : 1.1 pub school**

| Mean: | Std. Dev.: | Std. Error: | Variance: | Coef. Var.: | Count: |
|---|---|---|---|---|---|
| 1.4 | 6.1 | .6 | 37.2 | 434.1 | 94 |

| Minimum: | Maximum: | Range: | Sum: | Sum of Sqr.: | # Missing: |
|---|---|---|---|---|---|
| 0 | 44 | 44 | 132 | 3642 | 23 |

**$X_2$ : 1.1 nopub school**

| Mean: | Std. Dev.: | Std. Error: | Variance: | Coef. Var.: | Count: |
|---|---|---|---|---|---|
| 1.7 | 7.7 | .8 | 58.7 | 439.1 | 94 |

| Minimum: | Maximum: | Range: | Sum: | Sum of Sqr.: | # Missing: |
|---|---|---|---|---|---|
| 0 | 60 | 60 | 164 | 5744 | 23 |

| | Number of trips using regular bus or subway | Number of trips using a car, taxi or a special van or bus service |
|---|---|---|
| shopping | ____ | ____ |

**$X_1$ : 1.1 pub shop**

| Mean: | Std. Dev.: | Std. Error: | Variance: | Coef. Var.: | Count: |
|---|---|---|---|---|---|
| 2.8 | 5.3 | .5 | 28.4 | 189.5 | 95 |

| Minimum: | Maximum: | Range: | Sum: | Sum of Sqr.: | # Missing: |
|---|---|---|---|---|---|
| 0 | 30 | 30 | 267 | 3417 | 22 |

**$X_2$ : 1.1 nopub shop**

| Mean: | Std. Dev.: | Std. Error: | Variance: | Coef. Var.: | Count: |
|---|---|---|---|---|---|
| 5 | 10.4 | 1.1 | 107.2 | 208 | 94 |

| Minimum: | Maximum: | Range: | Sum: | Sum of Sqr.: | # Missing: |
|---|---|---|---|---|---|
| 0 | 60 | 60 | 468 | 12304 | 23 |

| | Number of trips using regular bus or subway | Number of trips using a car, taxi or a special van or bus service |
|---|---|---|
| going to movies, to visit people, or to church | ____ | ____ |

**$X_1$ : 1.1 pub movie**

| Mean: | Std. Dev.: | Std. Error: | Variance: | Coef. Var.: | Count: |
|---|---|---|---|---|---|
| 3.7 | 7.5 | .8 | 55.6 | 201.2 | 95 |

| Minimum: | Maximum: | Range: | Sum: | Sum of Sqr.: | # Missing: |
|---|---|---|---|---|---|
| 0 | 40 | 40 | 352 | 6530 | 22 |

**X$_2$ : 1.1 nopub movie**

| Mean: | Std. Dev.: | Std. Error: | Variance: | Coef. Var.: | Count: |
|---|---|---|---|---|---|
| 5 | 10.4 | 1.1 | 107.6 | 207.4 | 93 |

| Minimum: | Maximum: | Range: | Sum: | Sum of Sqr.: | # Missing: |
|---|---|---|---|---|---|
| 0 | 60 | 60 | 465 | 12223 | 24 |

| | Number of trips using regular bus or subway | Number of trips using a car, taxi or a special van or bus service |
|---|---|---|
| other (please explain:____________________) | ____ | ..................................____ |

**X$_1$ : 1.1 pub other**

| Mean: | Std. Dev.: | Std. Error: | Variance: | Coef. Var.: | Count: |
|---|---|---|---|---|---|
| 1.1 | 4.3 | .4 | 18.5 | 395.7 | 93 |

| Minimum: | Maximum: | Range: | Sum: | Sum of Sqr.: | # Missing: |
|---|---|---|---|---|---|
| 0 | 30 | 30 | 101 | 1809 | 24 |

**X$_2$ : 1.1 nopub other**

| Mean: | Std. Dev.: | Std. Error: | Variance: | Coef. Var.: | Count: |
|---|---|---|---|---|---|
| 1.9 | 5.3 | .6 | 27.7 | 273.8 | 91 |

| Minimum: | Maximum: | Range: | Sum: | Sum of Sqr.: | # Missing: |
|---|---|---|---|---|---|
| 0 | 30 | 30 | 175 | 2831 | 26 |

2. Do you use the bus or subway for all your local travel needs? yes__ no__

**Observed Frequency Table**

| | yes | no | Totals: |
|---|---|---|---|
| Mental health | 15 | 46 | 61 |
| Learning dis... | 3 | 17 | 20 |
| Mental handi... | 4 | 10 | 14 |
| Totals: | 22 | 73 | 95 |

If you responded *NO*, why do you not use them all the time?

The routes or schedules are not convenient................................,

**Observed Frequency Table**

| | yes | no | Totals: |
|---|---|---|---|
| Mental health | 17 | 30 | 47 |
| Learning dis... | 10 | 6 | 16 |
| Mental handi... | 3 | 6 | 9 |
| Totals: | 30 | 42 | 72 |

It costs too much.............................................................,

**Observed Frequency Table**

| | yes | no | Totals: |
|---|---|---|---|
| Mental health | 8 | 39 | 47 |
| Learning dis... | 0 | 16 | 16 |
| Mental handi... | 0 | 9 | 9 |
| Totals: | 8 | 64 | 72 |

I use special transit services or paratransit ............................,

**Observed Frequency Table**

| | yes | no | Totals: |
|---|---|---|---|
| Mental health | 4 | 43 | 47 |
| Learning dis... | 1 | 15 | 16 |
| Mental handi... | 2 | 7 | 9 |
| Totals: | 7 | 65 | 72 |

I have difficulties using public transit.......................................,

**Observed Frequency Table**

| | yes | no | Totals: |
|---|---|---|---|
| Mental health | 7 | 40 | 47 |
| Learning dis... | 1 | 15 | 16 |
| Mental handi... | 2 | 7 | 9 |
| Totals: | 10 | 62 | 72 |

I prefer to use a car or taxi for certain types of trips...................,

**Observed Frequency Table**

| | yes | no | Totals: |
|---|---|---|---|
| Mental health | 16 | 31 | 47 |
| Learning dis... | 7 | 9 | 16 |
| Mental handi... | 3 | 6 | 9 |
| Totals: | 26 | 46 | 72 |

I prefer to use a car or taxi for all types of trips........................,

**Observed Frequency Table**

| | yes | no | Totals: |
|---|---|---|---|
| Mental health | 9 | 38 | 47 |
| Learning dis... | 7 | 9 | 16 |
| Mental handi... | 5 | 4 | 9 |
| Totals: | 21 | 51 | 72 |

other (please explain:________________________)........,

**Observed Frequency Table**

| | yes | no | Totals: |
|---|---|---|---|
| Mental health | 19 | 28 | 47 |
| Learning dis... | 1 | 15 | 16 |
| Mental handi... | 0 | 9 | 9 |
| Totals: | 20 | 52 | 72 |

3. Do you have a driver's licence? yes__ no__

**Observed Frequency Table**

| | yes | no | Totals: |
|---|---|---|---|
| Mental health | 32 | 28 | 60 |
| Learning dis... | 15 | 6 | 21 |
| Mental handi... | 3 | 10 | 13 |
| Totals: | 50 | 44 | 94 |

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## Section 2: Long Distance Travel

1. For each of the types of long distance trips listed below, please indicate how many trips you have taken in the **last two years.** (Remember, count return trips as 2 trips).

| | Number of trips using a train, airplane, or bus | Number of trips using a car |
|---|---|---|
| trip for vacation or pleasure | ____ | ____ |

**$X_1$ : 2.1 pub vacation**

| Mean: | Std. Dev.: | Std. Error: | Variance: | Coef. Var.: | Count: |
|---|---|---|---|---|---|
| 5.2 | 12.4 | 1.3 | 154.9 | 240.9 | 90 |
| **Minimum:** | **Maximum:** | **Range:** | **Sum:** | **Sum of Sqr.:** | **# Missing:** |
| 0 | 96 | 96 | 465 | 16185 | 27 |

**$X_5$ : 2.1 nopub vacat**

| Mean: | Std. Dev.: | Std. Error: | Variance: | Coef. Var.: | Count: |
|---|---|---|---|---|---|
| 8.2 | 32.5 | 3.4 | 1055.7 | 394.6 | 90 |

| Minimum: | Maximum: | Range: | Sum: | Sum of Sqr.: | # Missing: |
|---|---|---|---|---|---|
| 0 | 300 | 300 | 741 | 100061 | 27 |

Number of trips using a train, airplane, or bus — Number of trips using a car

visit doctor or hospital .................._ _ _ _.........................................._ _ _ _

**$X_2$ : 2.1 pub doc**

| Mean: | Std. Dev.: | Std. Error: | Variance: | Coef. Var.: | Count: |
|---|---|---|---|---|---|
| 2.2 | 9.1 | 1 | 83.4 | 417.3 | 90 |

| Minimum: | Maximum: | Range: | Sum: | Sum of Sqr.: | # Missing: |
|---|---|---|---|---|---|
| 0 | 80 | 80 | 197 | 7857 | 27 |

**$X_6$ : 2.1 nopub doc**

| Mean: | Std. Dev.: | Std. Error: | Variance: | Coef. Var.: | Count: |
|---|---|---|---|---|---|
| 2.5 | 8.6 | .9 | 73.5 | 341.4 | 90 |

| Minimum: | Maximum: | Range: | Sum: | Sum of Sqr.: | # Missing: |
|---|---|---|---|---|---|
| 0 | 60 | 60 | 226 | 7108 | 27 |

Number of trips using a train, airplane, or bus — Number of trips using a car

travel for (but not to) work ............._ _ _ _.........................................._ _ _ _

**$X_3$ : 2.1 pub work**

| Mean: | Std. Dev.: | Std. Error: | Variance: | Coef. Var.: | Count: |
|---|---|---|---|---|---|
| 8.1 | 51.4 | 5.4 | 2644.1 | 631.4 | 90 |

| Minimum: | Maximum: | Range: | Sum: | Sum of Sqr.: | # Missing: |
|---|---|---|---|---|---|
| 0 | 480 | 480 | 733 | 241297 | 27 |

**$X_7$ : 2.1 nopub work**

| Mean: | Std. Dev.: | Std. Error: | Variance: | Coef. Var.: | Count: |
|---|---|---|---|---|---|
| 1.1 | 4.7 | .5 | 21.7 | 436.5 | 90 |

| Minimum: | Maximum: | Range: | Sum: | Sum of Sqr.: | # Missing: |
|---|---|---|---|---|---|
| 0 | 40 | 40 | 96 | 2032 | 27 |

| | Number of trips using a train, airplane, or bus | Number of trips using a car |
|---|---|---|
| other (explain:________________) | ____ | ...................................____ |

**X4 : 2.1 pub other**

| Mean: | Std. Dev.: | Std. Error: | Variance: | Coef. Var.: | Count: |
|---|---|---|---|---|---|
| .8 | 4.5 | .5 | 20.2 | 549.3 | 88 |

| Minimum: | Maximum: | Range: | Sum: | Sum of Sqr.: | # Missing: |
|---|---|---|---|---|---|
| 0 | 40 | 40 | 72 | 1816 | 29 |

**X8 : 2.1 nopub other**

| Mean: | Std. Dev.: | Std. Error: | Variance: | Coef. Var.: | Count: |
|---|---|---|---|---|---|
| 5.2 | 48 | 5.1 | 2300.6 | 927.7 | 88 |

| Minimum: | Maximum: | Range: | Sum: | Sum of Sqr.: | # Missing: |
|---|---|---|---|---|---|
| 0 | 450 | 450 | 455 | 202509 | 29 |

2. Were any of these trips made to destinations outside Canada? yes__ no__

**Observed Frequency Table**

| | yes | no | Totals: |
|---|---|---|---|
| Mental health | 11 | 49 | 60 |
| Learning dis... | 9 | 12 | 21 |
| Mental handi... | 2 | 12 | 14 |
| Totals: | 22 | 73 | 95 |

3. Are there any reasons why you do not travel on airplanes, trains, or buses more often? yes__ no__

**Observed Frequency Table**

| | yes | no | Totals: |
|---|---|---|---|
| Mental health | 42 | 13 | 55 |
| Learning dis... | 14 | 4 | 18 |
| Mental handi... | 10 | 2 | 12 |
| Totals: | 66 | 19 | 85 |

If you responded *YES*, what are the reasons?

The routes or schedules are not convenient ...... ....................,

**Observed Frequency Table**

| | yes | no | Totals: |
|---|---|---|---|
| Mental health | 11 | 33 | 44 |
| Learning dis... | 6 | 8 | 14 |
| Mental handi... | 2 | 8 | 10 |
| Totals: | 19 | 49 | 68 |

It costs too much ............................................................,

**Observed Frequency Table**

| | yes | no | Totals: |
|---|---|---|---|
| Mental health | 31 | 13 | 44 |
| Learning dis... | 10 | 4 | 14 |
| Mental handi... | 6 | 4 | 10 |
| Totals: | 47 | 21 | 68 |

I use special transportation services or paratransit ...............,

For the special transportation variable I was not able to compute a contingency table because there were no respondents who answered yes to this question. Concluding that there were no respondents who used special transportation services for long distance travel.

I have difficulties using public transportation ......................,

**Observed Frequency Table**

| | yes | no | Totals: |
|---|---|---|---|
| Mental health | 15 | 29 | 44 |
| Learning dis... | 1 | 13 | 14 |
| Mental handi... | 2 | 8 | 10 |
| Totals: | 18 | 50 | 68 |

I.prefer to use a car for certain types of trips .... ..................,

**Observed Frequency Table**

| | yes | no | Totals: |
|---|---|---|---|
| Mental health | 11 | 33 | 44 |
| Learning dis... | 4 | 10 | 14 |
| Mental handi... | 1 | 9 | 10 |
| Totals: | 16 | 52 | 68 |

I prefer to use a car for all types of trips ...............................,

**Observed Frequency Table**

| | yes | no | Totals: |
|---|---|---|---|
| Mental health | 3 | 42 | 45 |
| Learning dis... | 3 | 11 | 14 |
| Mental handi... | 1 | 9 | 10 |
| Totals: | 7 | 62 | 69 |

other (please explain:___________________________)....,

**Observed Frequency Table**

| | yes | no | Totals: |
|---|---|---|---|
| Mental health | 11 | 35 | 46 |
| Learning dis... | 4 | 10 | 14 |
| Mental handi... | 1 | 9 | 10 |
| Totals: | 16 | 54 | 70 |

---

## Section 3: Travel experiences

Everyone occasionally has problems during travel. But some people have special problems. For example, a person with a fear of flying would find it difficult to travel by air. The following questions address these special problems.

1. Do you have special difficulties when you travel either locally or long distance? yes__ no__

**Observed Frequency Table**

| | yes | no | Totals: |
|---|---|---|---|
| Mental health | 24 | 37 | 61 |
| Learning dis... | 14 | 11 | 25 |
| Mental handi... | 8 | 5 | 13 |
| Totals: | 46 | 53 | 99 |

If you answered *NO,* please skip the rest of this section and go to **Section 4.**

2. Listed below are some common travel activities. Check the box that best describes any difficulty you have.

| | Don't know | No difficulty | Slight or occasional difficulty | Severe difficulty |
|---|---|---|---|---|
| **Activities *before* the trip** | | | | |
| read schedules | ......................, | ......................, | ......................, | ......................, |

**Observed Frequency Table**

| | don't know | No difficulty | slight | severe | Totals: |
|---|---|---|---|---|---|
| Mental health | 1 | 12 | 11 | 4 | 28 |
| Learning dis... | 0 | 3 | 8 | 4 | 15 |
| Mental handi... | 0 | 2 | 2 | 4 | 8 |
| Totals: | 1 | 17 | 21 | 12 | 51 |

visit or phone a travel agent........,......................,......................,......................,

**Observed Frequency Table**

| | don't know | No difficulty | slight | severe | Totals: |
|---|---|---|---|---|---|
| Mental health | 5 | 12 | 6 | 2 | 25 |
| Learning dis... | 1 | 7 | 7 | 1 | 16 |
| Mental handi... | 2 | 3 | 3 | 1 | 9 |
| Totals: | 8 | 22 | 16 | 4 | 50 |

pack suitcase ..................................,......................,......................,......................,

**Observed Frequency Table**

| | don't know | No difficulty | slight | severe | Totals: |
|---|---|---|---|---|---|
| Mental health | 1 | 17 | 6 | 2 | 26 |
| Learning dis... | 0 | 13 | 2 | 1 | 16 |
| Mental handi... | 0 | 7 | 1 | 1 | 9 |
| Totals: | 1 | 37 | 9 | 4 | 51 |

**Activities *at the Terminal* (Airport, bus terminal, etc.)**

buy ticket ......................................,......................,......................,......................,

**Observed Frequency Table**

| | don't know | No difficulty | slight | severe | Totals: |
|---|---|---|---|---|---|
| Mental health | 1 | 17 | 5 | 3 | 26 |
| Learning dis... | 1 | 6 | 7 | 2 | 16 |
| Mental handi... | 1 | 2 | 4 | 1 | 8 |
| Totals: | 3 | 25 | 16 | 6 | 50 |

listen for announcements............,.........................,.........................,........................,

**Observed Frequency Table**

| | don't know | No difficulty | slight | severe | Totals: |
|---|---|---|---|---|---|
| Mental health | 1 | 10 | 12 | 5 | 28 |
| Learning dis... | 0 | 5 | 8 | 3 | 16 |
| Mental handi... | 0 | 3 | 4 | 1 | 8 |
| Totals: | 1 | 18 | 24 | 9 | 52 |

remember or understand spoken instructions

..................................,.........................,.........................,........................,

**Observed Frequency Table**

| | don't know | No difficulty | slight | severe | Totals: |
|---|---|---|---|---|---|
| Mental health | 2 | 9 | 10 | 6 | 27 |
| Learning dis... | 1 | 4 | 8 | 3 | 16 |
| Mental handi... | 0 | 2 | 2 | 3 | 7 |
| Totals: | 3 | 15 | 20 | 12 | 50 |

go through Customs inspection....,.........................,.........................,........................,

**Observed Frequency Table**

| | don't know | No difficulty | slight | severe | Totals: |
|---|---|---|---|---|---|
| Mental health | 5 | 10 | 3 | 8 | 26 |
| Learning dis... | 3 | 6 | 4 | 3 | 16 |
| Mental handi... | 1 | 3 | 1 | 2 | 7 |
| Totals: | 9 | 19 | 8 | 13 | 49 |

find proper departure gate............,......................,......................,......................,

**Observed Frequency Table**

| | don't know | No difficulty | slight | severe | Totals: |
|---|---|---|---|---|---|
| Mental health | 2 | 11 | 11 | 4 | 28 |
| Learning dis... | 1 | 4 | 7 | 4 | 16 |
| Mental handi... | 1 | 3 | 3 | 2 | 9 |
| Totals: | 4 | 18 | 21 | 10 | 53 |

find baggage ................................,......................,......................,......................,

**Observed Frequency Table**

| | don't know | No difficulty | slight | severe | Totals: |
|---|---|---|---|---|---|
| Mental health | 1 | 12 | 11 | 1 | 25 |
| Learning dis... | 2 | 5 | 6 | 3 | 16 |
| Mental handi... | 1 | 1 | 2 | 4 | 8 |
| Totals: | 4 | 18 | 19 | 8 | 49 |

**Activities *aboard the vehicle***

find a seat ....................................,......................,......................,......................,

**Observed Frequency Table**

| | don't know | No difficulty | slight | severe | Totals: |
|---|---|---|---|---|---|
| Mental health | 2 | 17 | 7 | 0 | 26 |
| Learning dis... | 2 | 10 | 3 | 1 | 16 |
| Mental handi... | 0 | 5 | 1 | 1 | 7 |
| Totals: | 4 | 32 | 11 | 2 | 49 |

get off at proper destination .........., ......................, ......................, ......................,

**Observed Frequency Table**

| | don't know | No difficulty | slight | severe | Totals: |
|---|---|---|---|---|---|
| Mental health | 1 | 16 | 9 | 1 | 27 |
| Learning dis... | 3 | 8 | 4 | 1 | 16 |
| Mental handi... | 0 | 3 | 4 | 0 | 7 |
| Totals: | 4 | 27 | 17 | 2 | 50 |

ask passengers or staff for information .............., ......................, ......................, ,

**Observed Frequency Table**

| | don't know | No difficulty | slight | severe | Totals: |
|---|---|---|---|---|---|
| Mental health | 3 | 14 | 10 | 2 | 29 |
| Learning dis... | 1 | 10 | 3 | 1 | 15 |
| Mental handi... | 0 | 7 | 0 | 1 | 8 |
| Totals: | 4 | 31 | 13 | 4 | 52 |

use emergency equipment .........., ......................, ......................, ......................,

**Observed Frequency Table**

| | don't know | No difficulty | slight | severe | Totals: |
|---|---|---|---|---|---|
| Mental health | 7 | 10 | 9 | 1 | 27 |
| Learning dis... | 4 | 5 | 5 | 1 | 15 |
| Mental handi... | 3 | 3 | 0 | 2 | 8 |
| Totals: | 14 | 18 | 14 | 4 | 50 |

How could any of these activities be made easier for you?

3. Where do you have difficulties? Please check all that apply.

local transit (such as a bus or subway) ,

**Observed Frequency Table**

| | yes | no | Totals: |
|---|---|---|---|
| Mental health | 15 | 13 | 28 |
| Learning dis... | 6 | 8 | 14 |
| Mental handi... | 4 | 3 | 7 |
| Totals: | 25 | 24 | 49 |

in terminal buildings (for example, an airport) ,

**Observed Frequency Table**

| | yes | no | Totals: |
|---|---|---|---|
| Mental health | 19 | 9 | 28 |
| Learning dis... | 13 | 1 | 14 |
| Mental handi | 6 | 2 | 8 |
| Totals: | 38 | 12 | 50 |

in a bus *between* cities,

**Observed Frequency Table**

| | yes | no | Totals: |
|---|---|---|---|
| Mental health | 11 | 17 | 28 |
| Learning dis... | 6 | 8 | 14 |
| Mental handi... | 3 | 5 | 8 |
| Totals: | 20 | 30 | 50 |

in a train,

**Observed Frequency Table**

| | yes | no | Totals: |
|---|---|---|---|
| Mental health | 8 | 20 | 28 |
| Learning dis... | 5 | 9 | 14 |
| Mental handi... | 3 | 5 | 8 |
| Totals: | 16 | 34 | 50 |

in an airplane,

**Observed Frequency Table**

| | yes | no | Totals: |
|---|---|---|---|
| Mental health | 14 | 14 | 28 |
| Learning dis... | 5 | 9 | 14 |
| Mental handi... | 4 | 4 | 8 |
| Totals: | 23 | 27 | 50 |

4. Here are a few things that can cause difficulties when travelling. Check all those that apply to you.

reading difficulties,

**Observed Frequency Table**

| | yes | no | Totals: |
|---|---|---|---|
| Mental health | 11 | 23 | 34 |
| Learning dis... | 8 | 8 | 16 |
| Mental handi... | 6 | 3 | 9 |
| Totals: | 25 | 34 | 59 |

vision loss,

**Observed Frequency Table**

| | yes | no | Totals: |
|---|---|---|---|
| Mental health | 7 | 28 | 35 |
| Learning dis... | 2 | 14 | 16 |
| Mental handi... | 0 | 9 | 9 |
| Totals: | 9 | 51 | 60 |

speech difficulties,

**Observed Frequency Table**

| | yes | no | Totals: |
|---|---|---|---|
| Mental health | 5 | 30 | 35 |
| Learning dis... | 3 | 13 | 16 |
| Mental handi... | 2 | 7 | 9 |
| Totals: | 10 | 50 | 60 |

hearing loss,

**Observed Frequency Table**

| | yes | no | Totals: |
|---|---|---|---|
| Mental health | 5 | 30 | 35 |
| Learning dis... | 1 | 15 | 16 |
| Mental handi... | 2 | 7 | 9 |
| Totals: | 8 | 52 | 60 |

memory loss,

**Observed Frequency Table**

| | yes | no | Totals: |
|---|---|---|---|
| Mental health | 14 | 21 | 35 |
| Learning dis... | 8 | 8 | 16 |
| Mental handi... | 3 | 6 | 9 |
| Totals: | 25 | 35 | 60 |

short temper,

**Observed Frequency Table**

| | yes | no | Totals: |
|---|---|---|---|
| Mental health | 6 | 29 | 35 |
| Learning dis... | 7 | 9 | 16 |
| Mental handi... | 1 | 8 | 9 |
| Totals: | 14 | 46 | 60 |

dealing with strangers,

**Observed Frequency Table**

| | yes | no | Totals: |
|---|---|---|---|
| Mental health | 14 | 21 | 35 |
| Learning dis... | 7 | 9 | 16 |
| Mental handi... | 2 | 7 | 9 |
| Totals: | 23 | 37 | 60 |

decision making,

**Observed Frequency Table**

| | yes | no | Totals: |
|---|---|---|---|
| Mental health | 14 | 21 | 35 |
| Learning dis... | 7 | 9 | 16 |
| Mental handi... | 2 | 7 | 9 |
| Totals: | 23 | 37 | 60 |

disorientation or confusion,

**Observed Frequency Table**

| | yes | no | Totals: |
|---|---|---|---|
| Mental health | 16 | 19 | 35 |
| Learning dis... | 10 | 6 | 16 |
| Mental handi... | 4 | 5 | 9 |
| Totals: | 30 | 30 | 60 |

anxiety or fear,

**Observed Frequency Table**

| | yes | no | Totals: |
|---|---|---|---|
| Mental health | 26 | 9 | 35 |
| Learning dis... | 8 | 8 | 16 |
| Mental handi... | 4 | 5 | 9 |
| Totals: | 38 | 22 | 60 |

other (please explain:______________________________),

**Observed Frequency Table**

| | yes | no | Totals: |
|---|---|---|---|
| Mental health | 10 | 25 | 35 |
| Learning dis... | 2 | 14 | 16 |
| Mental handi... | 2 | 7 | 9 |
| Totals: | 14 | 46 | 60 |

5. Do you travel with someone who must assist you?
yes__ no__ sometimes__

**Observed Frequency Table**

| | yes | no | sometimes | Totals: |
|---|---|---|---|---|
| Mental health | 4 | 29 | 10 | 43 |
| Learning dis... | 3 | 10 | 6 | 19 |
| Mental handi... | 7 | 4 | 2 | 13 |
| Totals: | 14 | 43 | 18 | 75 |

6. Please tell us about a problem you have had using buses or subways *in the city*. Use another piece of paper if you need extra space. Be sure to write the number "6" by your answer.

7. Please tell us about a problem you have had using buses, trains, or airplanes *between cities*. Use another piece of paper if you need extra space. Be sure to write the number "7" by your answer.

## Section 4: Background Information

To make the best use of your answers, we need to know a little bit more about you. Please remember that you are anonymous, and that any information you give us will remain secret.

1. From time to time, everyone has trouble remembering the name of a familiar person or learning something new, or they may experience confusion. However, do you have *ongoing problems* with your ability to remember or learn? yes__ no__

**Observed Frequency Table**

| | yes | no | Totals: |
|---|---|---|---|
| Mental health | 27 | 30 | 57 |
| Learning dis... | 14 | 7 | 21 |
| Mental handi... | 7 | 6 | 13 |
| Totals: | 48 | 43 | 91 |

2. Because of a long-term emotional, psychological, nervous, or mental health condition or problem, are you limited in the kind or amount of travel activities? yes__ no__

**Observed Frequency Table**

|  | yes | no | Totals: |
|---|---|---|---|
| Mental health | 29 | 29 | 58 |
| Learning dis... | 5 | 16 | 21 |
| Mental handi... | 2 | 11 | 13 |
| Totals: | 36 | 56 | 92 |

3. If you answered *YES* to any of the two questions above, please describe the symptoms or name the problem or disorder:

-------------------------------------------------------------------

4. What is your age? 15-18 , 19-34 , 35-54 , 55+ ,

**Observed Frequency Table**

|  | 15-18 | 19-34 | 35-54 | 55+ | Totals: |
|---|---|---|---|---|---|
| Mental health | 0 | 20 | 31 | 5 | 56 |
| Learning dis... | 1 | 12 | 6 | 2 | 21 |
| Mental handi... | 1 | 5 | 7 | 0 | 13 |
| Totals: | 2 | 37 | 44 | 7 | 90 |

5. What is your sex? male __ female __

**Observed Frequency Table**

|  | male | female | Totals: |
|---|---|---|---|
| Mental health | 25 | 32 | 57 |
| Learning dis... | 8 | 14 | 22 |
| Mental handi... | 7 | 6 | 13 |
| Totals: | 40 | 52 | 92 |

6. How large is the community you live in?
less than 10,000, 100,000-1,000,000, don't know,
10,000-99,999, over 1,000,000,

**Observed Frequency Table**

|  | less 10,000 | s= 10-99 | s= 100-10... | over 1000 | don't know | Totals: |
|---|---|---|---|---|---|---|
| Mental health | 9 | 20 | 18 | 7 | 4 | 58 |
| Learning dis... | 3 | 7 | 10 | 2 | 0 | 22 |
| Mental handi... | 1 | 9 | 0 | 2 | 1 | 13 |
| Totals: | 13 | 36 | 28 | 11 | 5 | 93 |

7. What province or territory do you live in?______________

**Observed Frequency Table**

|  | Quebec | Atantic | Ontario | West | Totals: |
|---|---|---|---|---|---|
| Mental health | 5 | 9 | 18 | 33 | 65 |
| Learning dis... | 3 | 4 | 4 | 6 | 17 |
| Mental handi... | 3 | 1 | 2 | 7 | 13 |
| Totals: | 11 | 14 | 24 | 46 | 95 |

8. What is *your main current reason* for being interested in the problems discussed in this survey?
to help people who are like me_ _ I am a caregiver/aide to someone_ _ my profession__ other __ (please explain:___________________________________________)

**Observed Frequency Table**

|  | help | aide | profession | other | Totals: |
|---|---|---|---|---|---|
| Mental health | 40 | 4 | 5 | 7 | 56 |
| Learning dis... | 18 | 0 | 3 | 0 | 21 |
| Mental handi... | 8 | 0 | 3 | 1 | 12 |
| Totals: | 66 | 4 | 11 | 8 | 89 |

Do you have any other comments which you think might be helpful to us?

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*Thank you for your time.*

# Data Used From the
# Statistics Canada Health and Activity Limitations Survey

HICKLING

**February 7, 1990** **HICKLING Ref: 2608**

**Mr. Paul McInerney**
**Behavioral Team**
**Suite 202**
**21 Vaughan Road**
**Toronto, Ontario**
**M6G 2N2**

**Dear Paul:**

**Attached please find the revised results of your query from the HALS survey regarding mental disability and transportation characteristics.**

**As before, Section 2d) has the following definitions for the code numbers given:**

| | |
|---|---|
| **1** | **Other ill–defined and unknown causes of morbidity – e.g. nerves.** |
| **2** | **Personality disorders.** |
| **3** | **Unspecified mental retardation.** |
| **4** | **Depressive disorder, not elsewhere classified depression.** |
| **5** | **Arthritis/rheumatism – upper body sites, entire body, or no site specified.** |
| **6** | **Stroke.** |
| **7** | **Aging.** |
| **8** | **Epilepsy.** |
| **9** | **Specific delays in development.** |
| **10** | **Ill–defined descriptions and complications of heart disease.** |
| **11** | **Schizophrenic psychoses.** |
| **12** | **Other conditions of brain.** |
| **13** | **Other cerebral degenerations.** |
| **14** | **Acute reaction to stress.** |
| **15** | **Chromosomal anomalies – e.g. Down's Syndrome.** |
| **16** | **General symptoms.** |
| **17** | **All other conditions or health problems reported as underlying conditions for individuals with learning disabilities, mental handicap, or psychiatric or emotional disabilities.** |

**.../2**

James F. Hickling Management Consultants Limited
350 Sparks Street, 8th Floor, Ottawa, Ontario K1R 7S8 FAX 237-7347 Telex 053-4[illegible] [illegible] (613) 237-2220

Mental disability is defined in 2e) as a logical OR of the following:

A21 – Learning disability.

A22 – Ongoing problems remembering or learning.

A23 Because of long–term emotional, psychological, nervous or mental health condition or problem, limited in the kind or amount of activity, with the following listed as the main condition:

- Other ill–defined and unknown causes of morbidity – e.g. nerves.
- Personality disorders.
- Unspecified mental retardation.
- Depressive disorder, not elsewhere classified depression.
- Stroke
- Aging
- Specific delays in development.
- Schizophrenic psychoses.
- Other conditions of brain.
- Other cerebral degenerations.
- Acute reaction to stress.
- Chromosomal anomalies – e.g. Down's Syndrome.
- General symptoms.
- All other conditions or health problems reported as underlying conditions for individuals with learning disabilities, mental handicap, or psychiatric or emotional disabilities.

Because the this definition has been changed, the counts for positive responses in Sections 3 and 4 have also changed.

Please contact me if you have any trouble.

Sincerely,

Peggy Campbell

Peggy Campbell
Consultant

| - | Canada | Nfld | PEI | NS | NB | Que | Ont | Man | Sask | Alb | BC | Yuk | NWT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| cv: 0-16.5 Unqual | 1616 | 613 | 556 | 1049 | 787 | 2756 | 4697 | 1045 | 705 | 1087 | 1448 | 452 | 450 |
| cv: 16.5-25.0 Qual | 712 | 270 | 245 | 462 | 347 | 1184 | 2029 | 460 | 311 | 479 | 648 | 202 | 201 |

**Legend:**

N/S: Not Stated

*: Qualified Result (coefficient of variation between 16.5 and 25.0%)
The result has a high sampling variability associated with it and should be used with caution.

-: Result not for Release (coefficient of variation greater than 25.0%)
The result has too high a sampling variability for general release.

HALS Runs for Behavioural Team Enquiry - February 1990

Section 2

Universe: Disabled Adults Household Residents

| - | Canada | Nfld | PEI | NS | NB | Que | Ont | Man | Sask | Alb | BC | Yuk | NWT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2794552 | 61866 | 16293 | 128174 | 93362 | 599546 | 1069142 | 136117 | 116714 | 228886 | 339200 | 1697 | 3554 |
| **2a) Problem Learning or Remembering (A22)** | | | | | | | | | | | | | |
| YES | 507528 | 9903 | 3073 | 20346 | 17120 | 138545 | 171560 | 25239 | 19899 | 40243 | 61038 | - | 395 * |
| NO | 2262994 | 51526 | 13069 | 107451 | 75771 | 456424 | 887260 | 109196 | 96245 | 186488 | 274923 | 1524 | 3119 |
| N/S | 24030 | 437 * | - | - | 471 * | 4577 | 10322 | 1682 | 570 * | 2155 | 3239 | - | - |
| **2b) Cause of Learning or Memory Problem** | | | | | | | | | | | | | |
| Effects of Stroke | | | | | | | | | | | | | |
| YES | 44774 | 1292 | - | 2182 | 1181 | 1325 * | 22875 | 3368 | 1427 | 4105 | 6807 | - | - |
| N/S | 14811 | 649 | - | - | - | 5060 | - | 1343 | 523 * | 3314 | 1961 | - | - |
| Disease affecting Brain | | | | | | | | | | | | | |
| YES | 29244 | - | - | 1539 | 505 * | 10181 | 10831 | 537 * | 904 | 1268 | 3249 | - | - |
| N/S | 14811 | 649 | - | - | - | 5060 | - | 1343 | 523 * | 3314 | 1961 | - | - |
| Injury to Brain | | | | | | | | | | | | | |
| YES | 25027 | * | - | 1033 * | 647 * | 5873 | 8983 | - | 757 | 1697 | 5244 | - | - |
| N/S | 14811 | 649 | - | - | - | 5060 | - | 1343 | 523 * | 3314 | 1961 | - | - |
| Alzheimer's | | | | | | | | | | | | | |
| YES | 6291 | - | - | - | - | 1935 * | 2117 * | - | 330 * | - | 824 * | - | - |
| N/S | 14811 | 649 | - | - | - | 5060 | - | 1343 | 523 * | 3314 | 1961 | - | - |

| - | | Canada | Nfld | PEI | NS | NB | Que | Ont | Man | Sask | Alb | BC | Yuk | NWT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Condition Related to Aging | | | | | | | | | | | | | |
| | YES | 174994 | 3966 | 1257 | 7274 | 6764 | 43519 | 56286 | 11494 | 8953 | 14907 | 20431 | - | - |
| | N/S | 14811 | 649 | - | - | - | 5060 | - | 1343 | 523 * | 3314 | 1961 | - | - |
| | Developmentally Delayed | | | | | | | | | | | | | |
| | YES | 35167 | 894 | 362 * | 1855 | 2463 | 9428 | 13124 | 1051 | 1584 | 1859 | 2547 | - | - |
| | N/S | 14811 | 649 | - | - | - | 5060 | - | 1343 | 523 * | 3314 | 1961 | - | - |
| | Learning Disability | | | | | | | | | | | | | |
| | YES | 41409 | 668 | - | 2063 | 1107 | 8853 | 17546 | 1964 | 1614 | 2886 | 4461 | - | - |
| | N/S | 14811 | 649 | - | - | - | 5060 | - | 1343 | 523 * | 3314 | 1961 | - | - |
| | Other | | | | | | | | | | | | | |
| | YES | 135164 | 927 | 510 * | 3594 | 3672 | 43695 | 44106 | 5877 | 3339 | 9221 | 20074 | - | - |
| | N/S | 14811 | 649 | - | - | - | 5060 | - | 1343 | 523 * | 3314 | 1961 | - | - |
| | Don't Know | | | | | | | | | | | | | |
| | YES | 57556 | 1495 | 497 * | 2581 | 2098 | 20589 | 15961 | 2311 | 2570 | 5110 | 4258 | - | - |
| | N/S | 14811 | 649 | - | - | - | 5060 | - | 1343 | 523 * | 3314 | 1961 | - | - |
| 2c) | Emotional, psychological, nervous or mental condition limiting travel, sports, or leisure activities | | | | | | | | | | | | | |
| | YES | 312735 | 5586 | 1254 | 11106 | 10873 | 100960 | 109233 | 11849 | 10570 | 18138 | 32881 | - | 225 * |
| | NO | 2448512 | 55846 | 14774 | 116192 | 81793 | 490580 | 947385 | 122406 | 105241 | 207593 | 301782 | 1632 | 3288 |
| | N/S | 33305 | 434 * | 266 * | 876 * | 696 * | 8006 | 12524 | 1862 | 903 | 3154 | 4537 | - | - |
| 2d) | Cause of Condition | | | | | | | | | | | | | |
| | 1 | 38613 | 1714 | 407 * | 2035 | 3312 | 9643 | 11818 | 889 * | 2383 | 3243 | 3169 | - | - |
| | 2 | 47058 | 1244 | - | 1220 | 1073 | 18560 | 17218 | 2167 | 682 * | 1581 | 3131 | - | - |
| | 3 | 19918 | 633 | - | 860 * | 1761 | 5885 | 7315 | 692 * | 824 | 742 * | 971 * | - | - |
| | 4 | 13875 | - | - | 727 * | 473 * | 3511 | 5312 | - | 1441 | 1010 * | 1335 * | - | - |
| | 5 | 12664 | - | - | - | - | 4705 | 5618 | - | 517 * | - | - | - | - |
| | 6 | 8491 | - | - | - | - | - | 5817 | - | 408 * | - | 1059 * | - | - |

| - |  | Canada | Nfld | PEI | NS | NB | Que | Ont | Man | Sask | Alb | BC | Yuk | NWT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 7 |  | 8261 | - | - | - | - | 3594 | 2376 * | - | - | - | 1497 | - | - |
| 8 |  | 6970 | - | - | - | 404 * | 3121 | - | - | - | - | 669 * | - | - |
| 9 |  | 5278 | - | - | - | 522 * | - | 3140 * | - | - | - | - | - | - |
| 10 |  | 4978 | - | - | - | - | 2946 | - | - | - | - | - | - | - |
| 11 |  | 4981 | - | - | - | - | 1388 * | - | - | - | - | 2062 | - | - |
| 12 |  | 2209 | - | - | - | - | - | - | - | - | - | - | - | - |
| 13 |  | 3047 | - | - | - | - | 1570 * | - | - | - | - | - | - | - |
| 14 |  | 3151 | - | - | - | - | - | - | - | - | - | 1048 * | - | - |
| 15 |  | 2889 | - | - | - | - | - | - | - | - | - | - | - | - |
| 16 |  | 4379 | - | - | - | - | 3320 | - | - | - | - | - | - | - |
| 17 |  | 176285 | 2853 | 869 | 7064 | 4121 | 52147 | 58227 | 8898 | 4585 | 14869 | 22208 | - | 336 * |
| 99 N/S |  | 12226 | - | - | - | 427 * | 1930 * | 4108 * | - | 618 * | 968 * | 3540 | - | - |
| 2e) | Learning Disability OR Mental Handicap OR Psychiatric Condition |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | YES | 741931 | 14932 | 4286 | 28612 | 24354 | 206419 | 256844 | 33694 | 28594 | 54068 | 89020 | 290 * | 818 |
|  | N/S | 34075 | 1146 | - | 626 * | 987 | 8103 | 13294 | 1490 | 971 | 2846 | 5135 | - | - |
|  | Other | 2018546 | 46563 | 11779 | 98936 | 68021 | 385023 | 799003 | 100932 | 87149 | 171972 | 245045 | 1402 | 2720 |
| 2f) | Urban/Rural |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | Large Urb | 639058 | 25550 | 9012 | 56534 | 47964 | 137141 | 170504 | 32250 | 42955 | 40841 | 75273 | 309 * | 726 |
|  | Other Urb | 998429 | 14967 | - | 28768 | - | 264382 | 344736 | 77927 | - | 131662 | 135988 | - | - |
|  | Rural | 1157065 | 21349 | 7282 | 42872 | 45398 | 198023 | 553902 | 25940 | 73759 | 5683 | 127940 | 1388 | 2820 |

| - | | Canada | Nfld | PEI | NS | NB | Que | Ont | Man | Sask | Alb | BC | Yuk | NWT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Section 3 | | | | | | | | | | | | | | |
| Universe: | Disabled Adults, Household Residents, Mental Disability as Defined in 2e | | | | | | | | | | | | | |
| | | 741931 | 14932 | 4286 | 28612 | 24354 | 206419 | 256844 | 33694 | 28594 | 54068 | 89019 | 290 | 818 |
| 3a) | (D61 not available - can't answer for "in labour force") | | | | | | | | | | | | | |
| | Seniors | 262470 | 6012 | 1914 | 9590 | 9708 | 70576 | 85748 | 16688 | 13121 | 17438 | 31491 | - | - |
| | Employed | 137321 | 1066 | 814 | 4985 | 2813 | 29684 | 58443 | 5445 | 5101 | 12316 | 16392 | - | 218 * |
| | Unemploye | 38949 | 993 | 233 | 569 | 646 | 6022 | 16327 | 847 | 1330 | 3285 | 8641 | - | - |
| | Not in La | 295238 | 6778 | 1324 | 13088 | 11080 | 97808 | 93569 | 10415 | 8831 | 20340 | 31730 | - | - |
| | Unknown | 7953 | - | - | - | - | 2329 * | 2758 * | - | - | 691 * | 764 * | - | 262 * |
| | Inadequate transportation causes difficulty in finding work (not in labour force - D72C) | | | | | | | | | | | | | |
| | YES | 2260 | - | - | - | - | - | - | - | - | - | 1012 * | - | - |
| | N/S | 3814 | - | - | - | - | 1743 * | - | 596 * | - | 599 * | - | - | - |
| | Inadequate Transportation Only Difficulty (not in labour force) | | | | | | | | | | | | | |
| | YES | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | N/S | 3814 | - | - | - | - | 1743 * | - | 596 * | - | 599 * | - | - | - |
| 3b) | Inadequate transportation prevents participation in leisure activities (H4C) | | | | | | | | | | | | | |
| | YES | 34820 | 513 * | 267 * | 1112 | 1388 | 8832 | 11682 | 1270 | 1662 | 2545 | 5521 | - | - |
| | N/S | 2628 | - | - | - | - | - | - | 515 * | - | - | - | - | - |
| | Inadequate transportation only problem (H4) | | | | | | | | | | | | | |
| | YES | 3084 | - | - | - | - | 1187 * | - | - | - | - | - | - | - |
| | N/S | 2628 | - | - | - | - | - | - | 515 * | - | - | - | - | - |

| - | | Canada | Nfld | PEI | NS | NB | Que | Ont | Man | Sask | Alb | BC | Yuk | NWT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3c) | Need Special Transit (F5) | | | | | | | | | | | | | |
| | YES | 94157 | 1062 | 322 * | 1972 | 1558 | 20580 | 19706 | 2777 | 2416 | 4640 | 8061 | - | - |
| | NO | 63115 | 11482 | 3577 | 23241 | 19337 | 145266 | 199544 | 24961 | 23193 | 45099 | 66508 | - | 429 * |
| | DON'T KNO | 562815 | - | - | - | 378 * | 5461 | 4270 * | 1025 * | 532 | 744 * | 2741 | - | - |
| | N/S | 6133 | - | - | - | - | 1281 * | - | 460 * | - | - | 1848 | - | 372 * |
| 3d) | Special Transit Available (F6) | | | | | | | | | | | | | |
| | YES | 37047 | - | - | 481 * | 408 * | 10259 | 12988 | 1804 | 1309 | 3666 | 5992 | - | - |
| | NO | 17118 | 833 | 265 * | 1264 | 1061 | 4520 | 5485 | 508 * | 996 | 884 * | 1297 * | - | - |
| | DON'T KNO | 8059 | - | - | - | - | 5717 | - | - | - | - | - | - | - |
| | N/S | 4407 | - | - | - | - | 1281 * | - | 686 * | - | - | - | - | 369 * |
| 3e) | Prevented from taking long distance trips (F16) | | | | | | | | | | | | | |
| | YES | 183965 | 3894 | 944 | 6856 | 6988 | 57768 | 59836 | 7620 | 5203 | 11387 | 23306 | - | - |
| | NO | 555395 | 11017 | 3342 | 21676 | 17366 | 147753 | 496696 | 26060 | 23384 | 4242657 | 64500 | 248 * | 696 |
| | N/S | 2571 | - | - | - | - | - | - | - | - | - | 1214 * | - | - |
| | Because services not suitable for condition (F17) | | | | | | | | | | | | | |
| | YES | 77018 | 1921 | 409 * | 2906 | 2318 | 16857 | 28429 | 3535 | 2874 | 5133 | 12544 | - | - |
| | NO | 106140 | 1973 | 535 * | 3950 | 4670 | 40911 | 31118 | 4085 | 2329 | 6255 | 10251 | - | - |
| | N/S | 808 * | - | - | - | - | - | - | - | - | - | - | - | - |
| 3f) | Require special facilities for long distance travel (F19) | | | | | | | | | | | | | |
| | YES | 23498 | 868 | - | 580 * | 664 * | 3265 | 9693 | 923 * | 1016 | 2197 | 4241 | - | - |
| | NO | 518927 | 9910 | 3214 | 20723 | 16274 | 143076 | 181551 | 23919 | 21908 | 39585 | 58214 | - | 386 * |
| | N/S | 921 * | - | - | - | - | - | - | - | - | - | - | - | - |

Section 4

**Universe:** Disabled Adults, Household Residents, Mental Disability as defined in 2e

| - | Canada | Nfld | PEI | NS | NB | Que | Ont | Man | Sask | Alb | BC | Yuk | NWT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
|  | 741931 | 14932 | 4286 | 28612 | 24354 | 206419 | 252169 | 33694 | 28594 | 54068 | 89020 | 290 | 818 |
| 4a) Trouble using local transit (F11) |  |  |  |  |  |  |  |  |  |  |  |  |  |
| YES | 96981 | 873 | - | 2700 | 1442 | 29090 | 34040 | 3614 | 2635 | 7001 | 15544 | - | - |
| NO | 302782 | 3565 | 295 * | 9444 | 5522 | 78018 | 117809 | 12870 | 9428 | 25019 | 40449 | - | - |
| N/S | 13254 | - | - | - | - | 3055 | - | 1318 | 418 * | 525 * | 2019 | - | 370 * |
| 4b) Problems using local transit (F12) |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Getting to the stop |  |  |  |  |  |  |  |  |  |  |  |  |  |
| YES | 43197 | 385 * | - | 995 * | 959 | 11088 | 15605 | 1972 | 1059 | 4468 | 6666 | - | - |
| N/S | 6418 | - | - | - | - | 1865 * | - | 1601 | - | 539 * | 806 * | - | 369 * |
| Waiting at the stop |  |  |  |  |  |  |  |  |  |  |  |  |  |
| YES | 42934 | 375 * | - | 900 * | 960 | 12436 | 15682 | 1602 | 1178 | 3115 | 6686 | - | - |
| N/S | 6418 | - | - | - | - | 1865 * | - | 1601 | - | 539 * | 806 * | - | 369 * |
| Getting on and off |  |  |  |  |  |  |  |  |  |  |  |  |  |
| YES | 52088 | 476 * | - | 1320 | 1110 | 11608 | 21152 | 2271 | 1469 | 4590 | 8091 | - | - |
| N/S | 6418 | - | - | - | - | 1865 * | - | 1601 | - | 539 * | 806 * | - | 369 * |
| Insufficient space |  |  |  |  |  |  |  |  |  |  |  |  |  |
| YES | 13524 | - | - | - | - | 3834 | 5629 | - | 465 * | - | 2436 | - | - |
| N/S | 6418 | - | - | - | - | 1865 * | - | 1601 | - | 539 * | 806 * | - | 369 * |
| Standing in moving vehicle |  |  |  |  |  |  |  |  |  |  |  |  |  |

| - | | Canada | Nfld | PEI | NS | NB | Que | Ont | Man | Sask | Alb | BC | Yuk | NWT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | YES | 47547 | - | - | 694 * | 632 * | 13606 | 16908 | 2135 | 1145 | 2906 | 9249 | - | - |
| | N/S | 6418 | - | - | - | - | 1865 * | - | 1601 | - | 539 * | 806 * | - | 369 * |
| | Obtaining information | | | | | | | | | | | | | |
| | YES | 10880 | - | - | - | - | 3333 | 4258 * | - | - | - | 2322 | - | - |
| | N/S | 6418 | - | - | - | - | 1865 * | - | 1601 | - | 539 * | 806 * | - | 369 * |
| | Staff unsupportive | | | | | | | | | | | | | |
| | YES | 4044 | - | - | - | - | 1686 * | - | - | - | - | - | - | - |
| | N/S | 6418 | - | - | - | - | 1865 * | - | 1601 | - | 539 * | 806 * | - | 369 * |
| | Other | | | | | | | | | | | | | |
| | YES | 31959 | 337 * | - | 1313 | 380 * | 11911 | 9091 | 591 * | 1075 | 1926 | 5294 | - | - |
| | N/S | 6418 | - | - | - | - | 1865 * | - | 1601 | - | 539 * | 806 * | - | 369 * |
| 4c) | Trouble using airplanes (F22A) | | | | | | | | | | | | | |
| | YES | 50223 | 721 | 300 * | 1461 | 1984 | 15126 | 17261 | 1548 | 1866 | 3326 | 6539 | - | - |
| | NO | 7720 | - | - | - | - | 1454 * | 2369 * | 687 * | 369 * | 547 * | 1661 | - | - |
| | DON'T KNO | 10498 | - | - | - | - | 2884 | 4846 | - | - | - | 1575 | - | - |
| | N/S | 3464 | - | - | - | - | - | - | - | - | - | - | - | - |
| 4d) | Trouble using buses (F22B) | | | | | | | | | | | | | |
| | YES | 50969 | 807 | 263 * | 1228 | 1257 | 15257 | 18414 | 1493 | 1604 | 2987 | 7609 | - | - |
| | NO | 12733 | - | - | 550 * | 841 | 3872 | 3414 * | - | 636 * | 873 * | 2000 | - | - |
| | DON'T KNO | 4581 | - | - | - | - | - | 2664 * | - | - | - | - | - | - |
| | N/S | 3621 | - | - | - | - | - | - | - | - | - | - | - | - |
| 4e) | Trouble using trains (F22C) | | | | | | | | | | | | | |
| | YES | 42195 | 602 * | - | 1277 | 1177 | 12929 | 16260 | 1411 | 1338 | 2512 | 4449 | - | - |
| | NO | 15800 | - | - | 508 * | 859 | 4742 | 3961 * | 556 * | 727 | 770 * | 3429 | - | - |
| | DON'T KNO | 10471 | 286 * | - | - | - | 1814 * | 4272 * | - | 466 * | 937 * | 1924 | - | - |
| | N/S | 3436 | - | - | - | - | - | - | - | - | - | - | - | - |

| - | Canada | Nfld | PEI | NS | NB | Que | Ont | Man | Sask | Alb | BC | Yuk | NWT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **4f) Troubles on long distance trips (F23)** | | | | | | | | | | | | | |
| **Lack of appropriate transport to/from terminal** | | | | | | | | | | | | | |
| YES | 6701 | - | - | - | - | 2569 * | 2812 * | - | - | - | - | - | - |
| N/S | 2431 | - | - | - | - | - | - | - | - | 655 * | - | - | - |
| **Moving around terminal** | | | | | | | | | | | | | |
| YES | 25884 | 330 * | - | - | 733 * | 6389 | 12184 | 847 * | 747 | 1579 | 2629 | - | - |
| N/S | 2431 | - | - | - | - | - | - | - | - | 655 * | - | - | - |
| **Boarding or Disembarking** | | | | | | | | | | | | | |
| YES | 30226 | 513 * | - | - | 738 * | 7848 | 13513 | 1191 | 870 | 1656 | 3390 | - | - |
| N/S | 2431 | - | - | - | - | - | - | - | - | 655 * | - | - | - |
| **Hearing Announcements** | | | | | | | | | | | | | |
| YES | 14680 | - | - | - | 457 * | 3434 | 7653 | - | 553 * | 690 * | 1253 * | - | - |
| N/S | 2431 | - | - | - | - | - | - | - | - | 655 * | - | - | - |
| **Seating on Board** | | | | | | | | | | | | | |
| YES | 12952 | 305 * | - | - | - | 2434 * | 5839 | 579 * | 566 * | 1017 * | 1661 | - | - |
| N/S | 2431 | - | - | - | - | - | - | - | - | 655 * | - | - | - |
| **Seeing Signs or Notices** | | | | | | | | | | | | | |
| YES | 12322 | - | - | - | 453 * | 3317 | 5621 | - | - | 499 * | 1307 * | - | - |
| N/S | 2431 | - | - | - | - | - | - | - | - | 655 * | - | - | - |
| **Washroom Facilities** | | | | | | | | | | | | | |
| YES | 12252 | - | - | - | - | 2326 * | 6796 | - | 389 * | 1048 * | 927 * | - | - |
| N/S | 2431 | - | - | - | - | - | - | - | - | 655 * | - | - | - |
| **Staff Unsupportive** | | | | | | | | | | | | | |
| YES | 3122 | - | - | - | - | 1201 * | - | - | - | - | - | - | - |
| N/S | 2431 | - | - | - | - | - | - | - | - | 655 * | - | - | - |

| - | Canada | Nfld | PEI | NS | NB | Que | Ont | Man | Sask | Alb | BC | Yuk | NWT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Transporting wheelchair or other aids | | | | | | | | | | | | | |
| YES | 6844 | - | - | - | - | 1315 * | 3430 * | - | 424 * | 600 * | 719 * | - | - |
| N/S | 2431 | - | - | - | - | - | - | - | - | 655 * | - | - | - |
| Carrier rules or regulations | | | | | | | | | | | | | |
| YES | 2000 | - | - | - | - | - | - | - | - | - | - | - | - |
| N/S | 2431 | - | - | - | - | - | - | - | - | 655 * | - | - | - |
| Flight/ride aggravates condition | | | | | | | | | | | | | |
| YES | 22402 | 411 * | - | 570 * | 596 * | 5131 | 7837 | 875 * | 1026 | 1418 | 4344 | - | - |
| N/S | 2431 | - | - | - | - | - | - | - | - | 655 * | - | - | - |
| Other | | | | | | | | | | | | | |
| YES | 27653 | 359 * | 316 * | 777 * | 1315 | 8477 | 10248 | 708 * | 1005 | 1635 | 2803 | - | - |
| N/S | 2431 | - | - | - | - | - | - | - | - | 655 * | - | - | - |